ECONOMIC IMPACT OF HIV/AIDS ON THE CONSTRUCTION SECTOR AND IMPLICATIONS FOR THE HOUSING POLICY

DRAFT REPORT 1- LITERATURE REVIEW

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1 INTRODUCTION

This report is the first of a series of research outputs focusing on the economic impact of HIV/AIDS on the construction sector and implications for the housing policy. The overall focus of the research is to identify the different impacts which the pandemic will have on the construction industry. It examines the manner in which different housing delivery processes will be affected by increasing rates of HIV infections, HIV/AIDS morbidity and mortality levels among role-players involved in those delivery processes. For the purpose of the study, the definition of the term "low-income housing" refers to state-assisted housing products valued at less than R 100 000, in other words, it is housing which households earning less than R 5000 per months are presumed to afford. Given the current income profile of the majority of the South African population, and the stated focus of the housing policy in terms of subsidy eligibility, greater attention will be placed on housing products and processes, targeted specifically to cater for the below R 3500 income bracket. Accordingly, the different categories of housing delivery processes which will be considered as part of the research are:

- Project-linked / RDP fully subsidised development;
- Incremental land and housing development;
- Projects developed by making use of the institutional housing subsidy; and
- Credit-linked projects.

Together with a number of national level interviews, it will **inform a national assessment** of the HIV/AIDS economic impact on the construction sector. The intention of the literature survey is to **identify and appraise the research undertaken to date** in respect of factors affecting the research focus. It documents the findings of a scoping exercise of literature and research pertaining to identify trends and dynamics in the following four sub-sector areas:

- Housing policy and implementation;
- Construction sector;
- HIV/AIDS macro-and micro- economic impacts; and
- HIV/AIDS impact on housing development.

The following points outline **the focus areas of the research** in terms of findings pertaining to policy and construction related matters:

- The supply focus of the current policy in relation to the implementation capacity of the construction sector, in different settlement contexts;
- The setting of criteria for eligibility and targets in relation to tenure type, housing type and design;
- The use of provincial waiting lists by developers and provinces to allocate and administer the subsidy;
- The administration of the subsidy scheme in respect of the application system, financial draw-downs and construction process;
- The suitability of different subsidies in relation to the implementation agents;
- Housing standards and cost factors; and
- The registration system.

Similarly construction-sector specific lessons may include but not be limited to:

- Approach to labour management in the construction process;
- Approach to labour management in materials manufacturing and supply;
- HIV/AIDS-related financial risk factors in the construction delivery system;
- Housing design and related costs to accommodate HIV/AIDS affected communities;

- Approach to construction process and delivery mechanisms; and
- Credit-financed housing development.

This report is structured according to the following sections:

- Section 2 provides **a rationale for the research** by examining the relevance of the study for the housing policy and its implementation;
- Section 3 examines the key historical factors that have resulted in the framing of **the housing policy's approach to housing development**, provides an overview of **the implementation framework** developed to ensure the realisation of the housing policy, and examines **recent policy developments**;
- Section 4 outlines the **practices which have emerged** in terms of low-income housing delivery and identifies factors which have led to the emergence of these practices;
- Section 5 identifies **macro construction sector trends and dynamics** and draws conclusions in respect of the current economic standing of the construction sector and its role in the implementation of the housing policy;
- Section 6 provides a synopsis of **costs factors affecting the delivery of low-income housing**, to provide a baseline of HIV/AIDS impacts;
- Section 7 outlines key **HIV/AIDS impacts** by presenting research findings in respect of macro-economic impacts, the individual and households, firms and companies.
- Section 8 identifies possible **areas of stress** in respect of the implementation of the housing policy from the perspective of the economic impact of HIV/AIDS on role-players involved in construction; and
- Section 9 sketches the **way forward for the research**.

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2 WHY IS THIS STUDY RELEVANT FOR THE HOUSING POLICY?

In South Africa, academics, researchers, corporates and policy-makers are waking to the implications which the pandemic may have on their respective functions and interests. The recognition that HIV/AIDS will have a significant impact on the implementation of the housing policy is only beginning to emerge among the range of housing and development role-players and stakeholders. Research findings provide insights into policy aspects such as:

- How HIV/AIDs will impact on housing delivery backlogs;
- How the housing needs of HIV/AIDS affected households will be provided for; and
- How the housing policy responds to demographic and economic patterns arising from the impacts of HIV/AIDS on the target beneficiaries of the policy.

Little thought has, to date, gone into appraising and accounting for the impacts which the pandemic will have on the construction industry. And why should this be the case? After all, the rationale for policy- in particular where policy implementation is tied to significant national and provincial capital expenditure- as is the case for the housing policy- is that it is responsive to local dynamics and trends affecting individuals and communities "at the grass-roots". A focus on "beneficiaries" is particularly alluring and justifiable given that the attribution of national and capital expenditure is based on the number of prospective beneficiaries.

Yet policy-making and appraisal cannot take place in a vacuum. The implementation aspects of policy- how are the principles and strategies going to materialise- are key in determining the particular achievements of specific policy orientations. As some national and provincial departments have come to realise- policy in and of itself does not ensure implementation and change, even when significant budget has been set aside to this effect. Tomlinson's statement, that:

"very few low-cost houses have been delivered during the past two years (which) is reflected in the fact that less than 21 per cent of the R 3,15 billion made available for housing in the 1995/96 national budget had been spent by the end of January (1996)"[1]

bears witness to this statement. She notes, in particular, that the reasons for this lack of delivery were linked to serious "teething problems" resulting from attempts at implementing new policy before the operationalisation of support programmes, and importantly the perception that the policy is underpinned by conflicting principles, pitting developer-driven delivery against participatory requirements.

Narsoo (2000) and Baumann (2000) go further in relating the slow pace of delivery of housing in the early years of the implementation of the housing policy to the lack of involvement of the construction sector. Both note, that in spite of the highly private-sector biased housing policy, the supply side of the housing market had only attracted a fraction of the interest which it was meant to arise from developers. They link this state of affairs to conceptual shortcomings in the structure of the subsidy at the time, which was to have been paid out in two tranches: 70% on completion with a 30% retention. This had the net effect of forcing developers to carry the main development risk and of enabling government to retain control over the quality of housing products being delivered. As developers were forced to raise bridging

[1] Tomlinson, M. (July 1996), "From Rejection to Resignation- Beneficiaries' views on the government's housing subsidy scheme". Social Policy Series- Centre for Policy Studies. Research Report no 49.

finance at market-related interest rates, few were those willing to play the housing supply game. In response to this situation where the key role-player in the implementation of the policy- the private sector- was unwilling to participate, the government introduced a system to allow for 5 progress payments to reduce the risk for private-sector developers.

These findings suggest three related and relevant points for the research:

- The first finding is that perceptions of financial risk and viability by private sector role-players play a key role in defining the extent to which they contribute to the implementation of the housing policy.
- Secondly, where private sector developers are unwilling to partake in housing delivery in line with the approach of the housing policy, budget spend on housing delivery is slow and delivery fails to take place at the scale and pace required. This is not to suggest that developers are the only suitable implementation role-players to achieve the development of housing. What it reveals is that although the housing policy framework relies extensively on the involvement of the private sector for delivery purposes, where financial conditions are not deemed appropriate for profit-making, the private sector is not wilfully performing the role policy attributes it.
- Thirdly, if more institutionally and financially resourced role-players (i.e. developers) perceive housing delivery to be financially unprofitable, smaller or less organised operators who may have limited access to financial resources, such as bridging finance for land and materials acquisition, development planning costs and construction, may find it extremely arduous to get involved in construction of low-income housing.

Importantly, the construction industry and in particular low-income housing development is critically affected by macro-level factors which impact on demand and supply factors (See Text Box # 1). Low levels of growth, low per capita income, low wages and high unemployment have a dampening effect on effective demand for housing while a balance of payments constraint can act as a brake for the capacity of the construction sector to supply housing. Most of the macro-economic impact research undertaken to date presages significant macro-economic impacts of the pandemic. These are discussed in detail in Section 7 below. Suffice it to say, at this

Tex Box 1: Linkages between housing development and economic sectors (Department of Housing)

The way in which the housing sector is critically linked to other economic sectors and role players can be described in three ways:

1. Real linkages refer to linkages between the housing sector and other sectors of the economy. Housing investment has real impacts on economic indicators such as fixed investment, savings, output, employment and prices. On the other hand, changes in these indicators also have a real impact on the housing sector and its performance.
2. Financial linkages are associated with the financing of housing and related infrastructure, through financial institutions. The inflation rate and real interest rates determine the supply of finance. High inflation and negative real interest rates decrease the amount of finance available for securing housing, thereby lowering the affordability of homeseekers. Other factors which influence the supply of finance are the level of domestic savings, and the effect of monetary and fiscal policy on the capacity of the financial sector to make finance available for housing.
3. Fiscal linkages concern taxation and subsidisation of housing and are the most direct means in which State policy affects the performance of the housing sector.

These linkages mean that whatever happens in housing has a profound effect on what might happen in other sectors of our economy, and vice versa.

stage, that the significant linkages, which infuse the construction and housing sectors with macro-economic conditions, suggest that a negative macro-economic impact of HIV/AIDS is likely to bear heavily on both sectors.

At the micro-level HIV/AIDS is likely to have an economic impact on the range of construction activities required for low-income housing delivery to take place. Yet, few are those that have begun to fathom what the nature and extent of this impact may be, and what this in turn implies for the implementation of the housing policy. Denny-Demitriou's solitary warning, in this respect, begins to define key areas of stress which accrue from the various socio-economic impacts of the pandemic:

"HIV/AIDS will affect all areas of the housing industry – housing consumers, service providers and practitioners. In terms of consumers, potential impacts include market size and location; shifts in consumer demand and built form specifications; changes in household spending patterns; and increased risk of rental arrears and loan defaulting. Housing service providers' and practitioners' output may be influenced, depending on how many people are affected; their role in the organisation; its ability to cope with absenteeism; company benefits provided and the impact of the disease on competitors and the business environment in general".[4]

Crudely speaking, one can infer from the above that the construction sector is likely to be subjected to both macro- and micro-level impacts. The AIDS BRIEF on the Construction Sector commissioned by the Health Economics and HIV/AIDS Research Division of the University of Natal suggests three specific areas of interface between the construction sector and the HIV/AIDS pandemic:

- The epidemic will impact on the availability, quality and needs of labour in the sector;
- Operational costs related to employee benefit, productivity and output quality, and costs of replacing and training labour will increase; and
- External interactions of forces, including the nature and scale of construction operations affected by a diversion of scarce public funding to health and welfare, and a decrease or changes in the demand for the sector.

If delays in the implementation of the housing policy were experienced, because the economic rationale of private sector operations could not be met in terms of the housing subsidy regulations, then the economic impact of HIV/AIDS on the construction sector, and resulting effect on profitability levels for developers may very well reduce the continued involvement of private sector role-players in the implementation of the housing policy. At this stage, it is unclear what the nature and extent of the impact on developers may be in future. Similarly, shifts in policy orientation to favour other types of development processes, and clear signs emerging from large scale developers that their interest in the low-income housing sector is waning, indicate the need to assess what the impact may be on other types of development role-players, in particular small contractors and self-help housing processes. Finally, because the financial viability of housing development can be affected by a range of factors, ranging from policy and legal framework, to economic, to institutional and socio-political trends and dynamics at the macro and micro, settlement levels, the identification of such factors will be undertaken, below.

3 PRINCIPLES AND INSTRUMENTS OF THE HOUSING POLICY

The Housing policy provides a framework to guide and assist in the development of housing for low-income households. It does so by establishing principles for development, formulating financial instruments to assist housing development, and proposing specific institutional, legal and financial interventions to enable the housing development framework's implementation. The following section aims to contextualise the housing policy and its implementation, by highlighting key political, social and economic events and development which have historically contributed to the framing of the current housing policy. It provides a synthesis of the factors that have shaped policy thinking and led to current practices of housing development. Next, an overview of the salient institutional, financial and legal mechanisms set up to implement the policy approach is provided. Finally recent policy developments are examined.

3.1 Historical context and background to the policy

The provision of shelter is commonly seen as key focus for development intervention. Initiatives such as the Habitat Agenda stress the significance which secure shelter and tenure reform hold in respect of bettering the quality of life of the rural and especially urban poor. In South Africa, access to adequate housing is not only seen as a developmental pursuit, but also as a right enshrined constitutionally. The deprivation of adequate housing and tenure rights experienced by the majority of the country's population, at the hands of the apartheid state, has meant that housing issues are intrinsically steeped in notions of political redress. The role which housing came to serve as a catalyst for political activism against the regime bears testimony to this statement. Years of forced-removals and displaced urbanisation had stretched settlement and urbanisation patterns and forces to a splitting point. They had fomented living conditions characterised by over-crowing, lack of access to basic services, insecure tenure and housing rights, informal densification processes and shack-development. These situations were the outcome of historical policy decisions, on the one and; on the other they were also resulting from the influence of macro-level trends and dynamics occurring both within and outside of the country's boundaries, including rapid urbanisation in the developing world. The combination of these factors led to a situation where on the eve of the transition to democracy, the housing question was high on the agenda of contemporary policy-makers.

At the time, key concerns for housing were articulated around the following factors and considerations:

- Large proportions of the population were housed in conditions of insecure tenure with lack of access to basic service levels in overcrowded townships and settlements;
- Land invasions and people-led informal land development processes were seen to pose a threat to the political and economic stability of a country- on the verge of a highly complex and conflictual political transition process;
- Past housing policy formulation and implementation (from forced removals, segregated townships, unequal tenure rights development, and site-and-service schemes) had been state-led and resulted in highly contested delivery of inadequate housing and settlement development patterns;
- The fiscal conditions which had enabled the implementation of the segregated new-towns policy from the 1950s to the mid-1970s were no longer a resource which the state could draw upon.

- Internationally, approaches to development- from hardened Thatcherism to aspirant neo-statist notions of development with a human face- had come to de-emphasise strategically the role of the state from that of a doer to that of an enabler.

These concerns led to a policy formulation process, which actually predates the transition to democracy. In the early 1990s, a platform for negotiating a consensual approach and policy for housing development had been set up, in the National Housing Forum (Land and Services Working Group). Most national policy is the outcome of extensive policy processes that have emerged since the transition to democracy, mostly from 1996 onwards. The Housing Policy White Paper, on the other hand, published in 1994 was one of the first pieces of national policy to be set after the transition. As such, the approach and mechanisms developed in terms of the housing policy were mainly drawn up prior to the transition, in the course of policy debates occurring nationally in the early 1990's on how to address housing issues. These concerns led to a policy formulation process, which actually predates the transition to democracy. In the early 1990s, a platform for negotiating a consensual approach and policy for housing development had been set up, in the National Housing Forum (Land and Services Working Group).

Critically, the repressive nature of the apartheid policy environment curtailed the emergence of vibrant debate around policy issues beyond the mainstream levels of powerful state and private sector interests. This has contributed to the definition of problem statements in respect of housing delivery that have focused on the manner in which the operations of the land and housing market should be facilitated. This approach emerged primarily in the definition of housing problems as the fragmentation of the apartheid city and the restrictions on the supply of land and housing. The identification of these factors as key to the resolution of housing demand and land invasions, led to the amalgamation of state intervention in the housing and land delivery sector with the corruption of operations of the market. In this framework, a pro-private sector, and supply-led rationale was developed which filtered- almost intact- through to the current policy and practice of housing "delivery". To this day the primary framework defining formal access to housing for the urban poor remain aligned to the approach developed in the Housing Policy White Paper.

3.2 Housing Policy Principles and Instruments

The SA housing policy is primarily a housing finance policy, where households are entitled to a once-off subsidy to cover the costs associated with tenure, services and a rudimentary top structure. The National Housing Policy identifies the lack of end user finance in the low-income housing market as a major constraint to housing delivery. The Housing White Paper identified that at the time of writing, 45-55% of households in need of housing, were unable to afford or access credit, and are therefore entirely dependent on their own limited resources and state subsidisation. Therefore, the government's approach focused on introducing subsidies to create incentive to credit and provide something where households have no or little access.

The Housing Subsidy Scheme currently provides six funding options to eligible people in the income bracket of ZAR 3 500 per month and below. These options are as follows:

- Individual ownership subsidies: Individual ownership subsidies are targeted at enabling ownership of fixed residential properties for the first time buyers. The

subsidy levels are linked to household income. There are two types of individual ownership subsidies:

- The project-linked subsidy operates primarily by means of developer-led housing development projects; and
- The individual subsidy affords people access to housing subsidies to acquire ownership of an existing property or a property in a project. This subsidy may also be used where a household wishes to purchase a serviced site for self-build purposes.
- Consolidation subsidies: This subsidy is available for households who have previously received housing assistance from the State in the form of ownership of serviced sites before the inception of the Housing Subsidy Scheme.
- Institutional subsidies: Institutional subsidies are made available to housing institutions developing affordable housing stock. This is the only subsidy which caters for tenure options other than ownership.
- Relocation assistance: This subsidy mechanism provides an alternative to defaulting bond-holders who were three months in arrears on 5 June 1995. It provides for the establishment of a rental arrangement for a defined period of time until relocation to an affordable property is arranged.
- Discount Benefit Scheme: The Discount Benefit Scheme enables home-ownership for tenants of state-owned rental stock.

In addition to having to fall below the ZAR 3 500 mark, households are entitled to different subsidy benefits depending on the actual income bracket in which they fall. Since 1999, the subsidy scheme is graduated according to the following income thresholds, where the poorest households have access to the highest subsidy amount:

- From ZAR 0 to ZAR 1 500, households are eligible to access ZAR 16 000; and
- From ZAR 1 501 to ZAR 3 500, households are eligible to access ZAR 8 000.

This categorisation system was informed by a consideration of affordability levels in relation to land, services and housing costs. Its rationale is that the South African government should target its intervention, in terms of socio-economic development to the poorest of the poor, or those who are not in a position to afford minimum levels of social and economic services. This means that the amounts are not aimed at providing an extensive housing product benefit; rather the amounts were selected to ensure that a majority of South Africans should benefit from State subsidies within the fiscal affordability of the State. The outcome is then the delivery of starter-houses, at no outright costs to the users, who are then able to consolidate the products which they receive.

Originally, the maximum amounts of the housing subsidy were ZAR 15 000, to which an additional 15% variation increment was attached to cover poor geotechnical conditions. Although the amounts have been revised upwards, they have not kept up with inflation, which has ranged from 4% to 7% annually.

Subsequent institutional developments related to the implementation of the housing policy provides for the establishment of the People's Housing Partnership Trust (PHPT), with a mandate to facilitate access by individual families to the provincially administered housing subsidies. The PHPT is an institution geared to facilitate access to financial, technical and administrative support to individuals who are inclined to build or improve their homes. In pursuit of these objectives, various implementation systems were set up whilst others have developed independently. In all these systems, the People's Housing Partnership Trust provides three main support forms including administrative, technical and logistitical support. This support

is mostly made available to communities where they have entered into a partnership with either developers, NGO's, local authorities and other government departments.

3.3 Recent policy developments

3.3.1 Access to housing subsidies by persons owning unsubsidised sites or housing

Under the current eligibility criteria, persons who acquired ownership of residential property without assistance from the housing subsidy, but meet all requirements, are disqualified from any assistance available under the scheme. Some of these persons were able to construct a basic house or only an informal structure and these structures very seldom meet the minimum health and safety standards set by municipalities. A substantial number of persons who bought sights from private developers are not in a position to access private finance to assist them in providing for the construction of top structures. The Department of Housing is currently investigating the possibility of awarding access to those households.

3.3.2 Amendment of the project-linked subsidy progress payment system.

The Department of Housing has acknowledged that the progress payment system does not accommodate delays in projects that are undertaken on the basis of development processes as envisaged by the Development Facilitation Act. In addition, it also does not take into account cost and process requirements in terms of the development of state owned land or projects where considerable delays are experienced. As such, a review of the system is currently under investigation (National Department of Housing, 2000).

3.3.3 Co-ownership of single residential property

The existing subsidy policy does not provide for the allocation of housing towards prospective beneficiaries who will obtain co-ownership of single residential property. The need for the recognition of such ownership emanates from the current problems regarding the delivery of houses, the cost of individual serviced sites and the location of new housing developments in general. (National Department of Housing, 2000)

3.3.4 Proposals for the restriction on the disposal of subsidy delivered housing

Mounting concern is experienced in the provincial and national departments of housing that households are disposing of their subsidy delivered housing products often at below market value and without registering their tenure transactions. This has prompted a proposal from the national department of housing to amend the Housing Act to outlaw the disposal of state-delivered houses to purchasers other than the state for a period of five years (Development Works, 2001)

3.3.5 Housing Policy Review

Although the current policy framework is likely to continue guiding implementation for at least the remainder of the current Medium Term Expenditure Framework, as budget allocations have been committed to specific projects, there are clear indications that significant changes in policy orientation are in the pipeline. A policy review exercise is underway, which seeks to build on the experience of the implementation of the housing policy.

Salient features of the Review's proposals include:

- A shift in implementation approach from supply-driven to demand-driven processes;
- Greater involvement of beneficiaries and small contractors in the construction process, away from developer-driven processes;
- A reduction in the scope of benefits to be accessed from subsidy amounts to prioritise access to land, secure tenure and services, and facilitate incrementally construction of top structures;
- Promoting beneficiary contributions to the costs of development through equity participation (either sweat equity or savings);
- Investigating financing mechanisms that provide for a package of contributions, by leveraging equity contributions, subsidies and lending finance; and
- Suggesting the need to envisage support measure for housing development that fall beyond the ambit of subsidisation.

A major feature of the housing policy Review is the shift from supply to demand side measures. This approach is premised on the basis of an operational shift relating to the respective roles of the public and private sectors and civil society, where government supply subsidies in response to articulated human settlement needs, as determined at local level through the municipal Integrated Development Planning (IDP) process, provided for in terms of the Municipal Systems Act. This means, in particular, that whereas housing funds had previously been allocated on a project by project basis by provincial departments of housing, the allocation of funding for housing development will need to be responsive to local demand as priority issues and strategic decisions made locally. In practice, this also suggests that access to housing funds will no longer occur via the intermediary of housing developers conniving with housing waiting lists (BRCS, 2001), but that access will be led by local communities and interest groups successfully articulating a housing issue- and corresponding solutions- as part of the IDP's multi-year housing programme. Thereupon, call for proposals will be issued by municipalities for the development of housing projects based on considerations of value-for-money (Richards, 2001).

A key concern of the Review relates to the impact of the national norms and standards on the practices of housing development. A segmentation of the subsidised housing delivery market has developed, where different role-players take on different components of the delivery process. Developers focus on township development and the installation of internal services, and in doing so apportion the stipulated maximum amount of R 7 500 per site. The remainder of the process- the construction of top structures- is then relegated to subcontractors, and to individual subsidy beneficiaries themselves. To do so they have to adhere to the stipulated maximum balance which many argue to be insufficient to build adequate housing (Richards, 2001). In addition, given the government's fiscal constraints, the Review also notes the limitations in the amounts which may be allocated per beneficiary in order to assist the majority of households in need of state-assisted housing.

To remedy this situation, the Policy Review envisages a number of related policy responses. Firstly, it proposes placing greater amount of responsibility on the beneficiaries to participate in the management of the construction process, and through a more direct involvement of accredited municipalities to appoint contractors and developers on a competitive basis. Secondly, it refocuses government's intervention on enabling of access to housing opportunities and encouraging counter-contributions. In effect this means prioritising access to a basic housing benefit comprising secure tenure over a plot of land with access to basis services. The

provision of top-structures is seen as an additional benefit which can be met overtime (BRCS, 2001).

To arrive to a greater level of beneficiary contribution, the Review proposes to convert the individual subsidy entitlement into a qualified entitlement, where households who aspire to adequate housing must contribute either in cash, through personal savings or employer contributions, or in kind, through sweat equity, undertaking home building activities themselves or collectively, in cooperation with others (BRCS, 2001). To do so, the Review proposes that the Subsidy Programme should be revised to make beneficiary equity contributions a prerequisite for subsidy assistance (Ibid.) In this new system, the subsidy 'amount' will be the same for all (bearing in mind that the amount itself will be product-driven rather than fixed) but different income categories will be asked to contribute either 'sweat equity' or savings, before accessing the subsidy, which would then be augmented by some form of lending finance (Ibid.).

Importantly, the Review also suggests the need to envisage support measure for housing development that fall beyond the ambit of subsidisation. Instead of a direct state intervention in the housing market through subsidisation, the Review proposes that to achieve long-term sustainability demands a progressive movement away from subsidies with greater emphasis placed on the support of beneficiary economic self-sufficiency and people-centred development (Ibid.).

These shifts in policy approach signal a critical redirection of the manner in which housing development has taken place over the past six years, away from a "delivery-driven" approach towards a localised development process, where beneficiaries are key role-players. Although the current policy framework is likely to continue guiding implementation in the short-term, the type of housing development process envisaged in the medium- to long-term will dramatically alter the manner in which housing development is to take place in future. The implications of this shift for the research focus is manifold, they affect:

- Who will lead the construction process (beneficiaries and municipalities);
- How construction role-players will be called upon to undertake construction (through competing for projects identified in the municipal IDP process);
- What will be developed (sites and services in the first instance, and top-structures incrementally); and
- With what resources housing will be developed (with beneficiary contributions-sweat equity or savings and loan plus subsidy packages).

Whilst it will be important for the research to assess economic impacts of HIV/AIDS on the construction sector, as it operates within the ambit of the current policy framework (i.e. developer-led), much greater attention will have to be placed on projecting possible impacts on the manner in which HIV/AIDS is likely to impact on other construction processes, as envisaged in the Review. Under the current framework the key role-players have been developers and contractors, with limited input from communities in the form of unskilled labour. In future, the primary role-players will be the beneficiary communities, small contractors, organisations supporting self-help housing development processes and municipalities. The economic, institutional and operational capacities of these two groups of role-players are vastly different, so are the possible impacts, including economic impact of HIV/AIDS.

4 PRACTICES IN HOUSING DELIVERY: HOUSING PRODUCTS, ROLE-PLAYERS AND SUPPLY-CHAIN PROCESSES

Section 4 outlines the practices which have emerged in terms of low-income housing delivery and identifies factors which have led to the emergence of these practices.

4.1 Budgetary frameworks affordability and financial considerations

The housing policy implementation is guided in practical terms by the allocation of funding to provinces, in charge of attributing subsidies to approved projects in their respective areas of jurisdiction, and in line with provincial policy and strategic frameworks.

4.1.1 Budgetary frameworks

In terms of housing budgetary allocation, administered by the provinces, the allocation process is as follows:

- A share of the national budget allocated to housing is identified during the annual budgetary process.
- The share allocated to housing is then spread among the different provinces according to factors such as population size, and housing demand, as well as strategic factors relating to urban development policy.
- Provinces allocated subsidies, from their allocation to different projects according to the demand expressed in terms of “projects proposals” drafted by municipalities or housing developers.

Although budgetary allocations are reviewed annually a mechanism for multi-year planning, the Medium Term Expenditure Framework, on a rolling three-year basis, was introduced to ensure greater levels of predictability, and that plans and budgets are linked to one another (DPC, 1999). However, in the absence of a Medium Term Strategic Framework to complement the Budget and the Medium Term Expenditure Framework, all policy is given equal priority and the budget is seen as the main policy making instrument (Pillay, in Royston 2001).

In this context, it is important to note four key budgetary characteristics, which have an impact on the implementation of housing delivery, since the introduction of the subsidy system:

- **Where:** A shift in development focus from the urban to the rural at national policy level has resulted in a sharp increase in rural housing subsidies. This shift appears to be motivated by the urgent need to manage urbanization.
- **How much:** The proportion of the total national budget, having increase steadily until 1998, has been declining since. Secondly, although the subsidy amounts have been revised upwards, the real value of the subsidy has not kept up with inflation and has therefore also decrease;
- **For who:** Departmental imperatives have prioritised access for households earning less that R 1500 per month. The Department of Housing estimates in 1999 suggests 76% of subsidies were allocated to this income group;
- **By who:** Significant administrative capacity variations of the provincial departments of housing, responsible for allocating and administering subsidies to projects, have affected the extent to which provincial housing budgets have been spent. In particular, those provinces where the least institutional capacity exists- such as the Northern Province and the Eastern Cape, delivery has been remarkably slow. The following table presenting the number of houses built or under construction between the different provinces bears witness to this statement.

Table 1 : Houses built or under construction April 1994- March 2001 (Department of Housing, 2001)

Province	Houses completed/ Under construction
Eastern Cape	98,774
Free State	91,699
Gauteng	348,288
Kwazulu/Natal	206,670
Mpumalanga	68,860
Northern Cape	30,437
Northern Province	83,147
North West	91,184
Western Cape	148,376
TOTAL	1,167,435

- **For what:** A number of provinces are prioritising the allocation of subsidies according to different types of subsidy options, either in the spatial location of housing subsidies in their area of jurisdiction or the type of housing development which subsidies should be used for. Some provinces, such as Gauteng, have even undertaken a ring-fencing exercise in respect of specific housing development options (See Text Boz # 2). Of note is the increase at the provincial level of incremental housing processes (Firstly land and secure tenure, then services, and finally a top structure are developed over a number of years) and of institutional housing subsidy allocations which enables the leveraging of significant top-up loan finance for the construction of housing products. These increases have been matched by a sharp decrease in the allocation of budget for project-linked housing products where the subsidy only is used to develop a package comprising of a serviced site, with individual ownership rights and a rudimentary top-structure.

Tex Box 2: Ringfencing of subsidies by the Gauteng Department of Housing (Ambert and Rachmul, 2001)

The Gauteng Department of Housing has initiated from 2000 onwards a ring-fencing exercise setting the following delivery targets in terms of departmental budget allocation:

- 50,0% formal, project-linked housing projects ;
- 37,5% phase upgrade of informal settlements ; and
- 12,5% institutional, rental and high-density housing.

In the course of 2000, the province has had to make available an additional amount to cover emergency housing assistance requirements, introduced nationally to cover instances where children's rights to shelter are threatened.

Figure #1 below presents an overview of the typical roles and responsibilities in the current housing delivery framework.

Figure 1: Institutional roles, responsibilities and process overview in housing delivery (elaborated from Bauman, 2000)

4.1.2 Affordability and other sources of finance

The availability of funding for housing is a key determinant- though it is not the only determinant- of the level of investment into housing development in general, and in specific housing products, at the micro-level. At the most basic level, the smaller the financial resource pool available for building houses, the smaller the total number of housing products developed and the smaller the housing benefit accessed by households- and the size of turnover of the different role-players involved in the construction process.

A key factor influencing the development of housing products in post-apartheid South Africa has been the lack of household affordability. In the drawing up of the current

housing policy, it was envisaged that subsidisation should be seen as enabling household affordability, and that it should be complemented by some form of lending option. The Department of Housing concluded a 'Record of Understanding' (RoU) with South Africa's Association of Mortgage Lenders, in terms of which the banks committed themselves to provide supporting loan finance to projects under the subsidy programme. However, this arrangement was to little avail, as to date, little commercial banking involvement has been secured in the low-income housing sector. Critically, financial institutions are also likely to discriminate against a segment of the population whom they see as extremely vulnerable to HIV/AIDS impacts- the poor, as this would mean that they run the risk of not recouping their investment (in fact some lending institutions have instituted mandatory HIV/AIDS testing, prior to extending mortgage lending facilities). This means that the feasibility of their extending mortgage lending to beneficiaries of state assisted housing will continue to be unlikely.

Micro-lending facilities have, internationally, been seen as facilitating access of poor households to housing finance. In South Africa, the Usury Act stipulates maximum rates of interest, forms of security, and other essential aspects of all lending activity. It also provides the Minister of Trade and Industry with the authority to regulate microlenders. Most South African microlenders target Small and Medium Enterprises, and do not give loans for emergencies, consumption, nor do they seek to support housing delivery. Although efforts has been made in seeking to extend such loans for housing purposes, up to 50% of the loans are in fact used to purchase consumer items (Ambert and Rachmul, 2001).

On the supply side of the micro-loan industry, other types of role-players are also active. Firstly, it is fairly common practice for employers to lend to their employees at a rate seldom exceeding current prime-lending rate (at present this amounts to 15% per annum). Secondly, a significant amount of cash lenders operate, often illegally. They are often the most accessible lending institutions for the urban poor, as they do not require payroll-deductions or other formal arrangement. However, their risk management methods and the interest rates which they charge are often extremely exploitative. Practices such as withholding bank debit cards and identity documents and charging interest rates of up to 55% are rife. As such if those institutions make borrowing possible for the urban poor they also make it tenuous. Importantly, if those institutions notice an increase in defaulting rate, owing to HIV/AIDS-linked changes in household economics, they may retarget their market practices, or cease their operations.

Formal lending institutions have recently introduced products, personal loans, that are designed to attract low-income households. The requirements that loan-holder have regular employment and the provisions for pay-roll deductions are common. Because formal lending institutions are deposit taking they are able to extend lending rates that are relatively affordable to the urban-poor (i.e. prime lending rate +1,5%). The size of the loan is relatively small (between ZAR 5 000 and ZAR 10 000). In the current housing development environment, where delivery is almost exclusively linked to a developer-driven process, housing development beneficiaries have not been in a position to make use of such lending facilities to augment the financial resources available to develop higher quality housing products. What does happen in practice, though it does not appear to have been the object of research, is that households may extend and consolidate the housing products delivered as course of a project-linked housing delivery project by making use of small personal loans which they access through any of the above financing mechanisms, or only using household savings or a combination of both (Ambert and Rachmul, 2001). This of course means that household-initiated and sourced finance occurs in a post-hoc

manner. With the shift in policy direction, and the adoption of financing mechanisms where loan finance is a prerequisite for access to subsidies, it is possible that this option will be drawn upon extensively. However, it is likely that potential loan holders may be scrutinised by lending institutions in terms of the HIV status, which would undermine access of state assisted housing to such facilities, where HIV prevalence is high.

The above suggests that financial mechanisms that augment the input costs for housing development have been inaccessible for the overwhelming majority of beneficiaries of state assisted housing, to date. The increased financial risk which HIV/AIDS poses in terms of loan repayment defaulting, means that the likelihood of such housing finance options being available for beneficiaries in future is likely to remain low. What this means is that unless other sources of finance or alternative lending facilities are developed the financial resource pool available for housing development will remain limited. Given the current macro-economic dynamics affecting employment and poverty levels the ability of households to augment subsidy amounts by means of equity contributions remains uncertain. Tomlinson (2001) notes that the trend towards shedding jobs that started in the late 1980s, largely due to sanctions, increased sharply after 1994 with the advent of a democratic government, South Africa's joining the World Trade Organisation and the rapid drop in tariff protections against imports. Quoting the Business Day, he warns that a million mostly unskilled jobs were lost between 1993 and 1997, offset against 60 000 new skilled jobs and about a million informal sector jobs (77% of whom earn less that $140 per month). The poorest households spend almost 75% of their total annual disposable income on food, power and other energy sources (See text box #). This leaves them with very little left to spend on housing. These factors suggest that financial equity contributions are only going to be feasible for the highest segments of households who qualify for state assisted housing. How construction role-players are affected by this situation is unclear at this stage; yet, with a shrinking resource base with which to develop housing stock it is almost certain that compromises will have to be reached. In the past, these compromises have typically affected housing location, size and quality.

Tex Box 3: Household income profiles (Department of Housing, 2000 (b))

Household income has a significant bearing on household expenditure. A Central Statistical Service survey (1997) of earnings and spending in South Africa during 1995 indicated that a large proportion of the average South African household income is spent on essential products and services like food and housing. Households spend an average of 59% of their annual expenditure on four items:

· food: 18%
· housing: 16%
· income tax: 15%
· transport: 10%

The poorest households, however, spend almost 75% of their total annual disposable income on food, power and other energy sources. This leaves them with very little left to spend on housing.

4.2 Delivery process

At present, the primary role-players in the implementation of the policy- and the delivery of houses to low-income households are intrinsically related to the developer-led construction industry. The South African Housing policy places

significant emphasis on the role of the private sector as the vehicle of the implementation of the policy housing. As such, not only is the housing policy supply-driven it is also private sector driven. To a large extent, the subsidy model has enabled large developers to take control of the delivery process (See Figure # 1, below presenting housing delivery processes as they currently operate). Community driven or self-help development processes are largely non-existent (accounting for less than 1% of the subsidies allocated nationally to date)[2]. Whereas the project-linked subsidy option accounts for close to 80% of the total subsidy allocation (inclusive of in-situ tenure upgrading and institutional subsidy mechanisms), some evidence of community-driven and NGO supported housing processes has emerged since the early 1990s. The experience of the Homeless People's Federation and the support NGO People's Dialogue, or the role of institutions such as the Urban Sector Network, and its affiliates the Built Environment Support Group, Plannact and the Development Action Group, reveals that there is demand for such types of delivery processes.

It is telling that whereas, prior to the introduction of the subsidy scheme involvement of the private sector in the development of housing for the income groups targeted by the housing subsidy scheme had existed, and was generally financed using bridging finance mechanisms, since the introduction of the subsidy scheme, little if any such activity is currently taking place for those particular income groups. Instead, developers, apart from developing subsidised housing, are now targeting the development of housing products on which bonds valued at least R 100 000, which remains clearly beyond the affordability levels of the urban poor.

The shifts in policy approach proposed by the Housing Review, together with provincial budget allocation in favour of incremental housing development on the one hand and institutional housing development on the other, as well as a marked decrease in the interest of large developers to partake in land and housing development signal a critical redirection of the manner in which housing development has taken place over the past six years. This suggests a move away from a "delivery/developer-driven" approach towards a localised development process, where beneficiaries are key role-players. This means that processes such as small contractor built housing development and in particular people's housing processes are likely to play a significant part in future housing development. Civil engineering firms will probably continue to form part of the housing delivery effort, especially in the development of serviced sites. Finally, where the involvement of developers and contractors is likely to be sustained is in the social housing environment, which has primarily led to the development of high quality housing by combining institutional housing subsidies with loan finance granted to a housing institution underwritten by parastatal organisations. For this purpose affordability levels are generally much higher among the beneficiaries of these housing projects. Although some social housing initiatives have sought to target lower income groups, such as the co-operative housing development developed by Afesis-Corplan in the Eastern Cape, they tend to be marginal. Importantly, in addition to the range of role-players which most conventional state-assisted housing development processes involve, institutional housing also requires the involvement of housing management institutions for a minimum period of four years (in accordance with the subsidy

[2] Unlike Asia or Latin America, where self-built housing is not only accepted but also regarded as the norm, many of South Africa's policy-makers interpret 'people-driven' as meaning 'participation' in a process designed, driven, and implemented by 'delivery experts' (Bauman, 2000).

regulations). These institutions often hold some form of financial interest in the various housing projects and tend to have a strong role in the construction process.

Three basic housing delivery process models (categorised in BESG, 1999) will be used to assess the economic impacts of HIV/AIDS:

- **Conventional developer delivery**: Labour and materials contractor builds house, architect/clerk of work certifies completion. This model constitutes the bulk of the housing delivery to date, although some have noted that it is primarily suitable for households who can afford a mortgage loan and who want high quality product

- **Small contractor delivery**: Labour only contractor builds house, owner responsible for ordering materials, housing advisors provide advice and certify completion. This model is said to be particularly suitable for households who cannot afford mortgage loans.

- **Self-help delivery**:

  Assisted mutual help: Members of households are trained and managed by a construction manager in the building of houses; materials are bought in bulk for the project. This model is seen to be suitable for households who cannot afford mortgage loans and where there are very small builder and building materials suppliers in an area, and where member of households are willing to be involved in the construction process.

  Self-build: Members of household buy their own materials and build their own houses; they may require advice and assistance and may hire people to undertake certain construction tasks. This model is said to be suitable for households who cannot afford mortgage loans, where there are a sufficiently large number of small builders and building materials suppliers in an area.

In terms of these different modes of construction, for the purpose of the research, we identified different fillieres which contribute to the construction process, typically, they include:

- **A materials filliere** (manufacturing, supply and transport);
- **A civil engineering filliere** (bulk and connector infrastructure for water, sanitation, roads, stormwater and electricity);
- **A construction filliere** (including layers of production units- from large developers to small contractors, artisans, casual workers, and beneficiary households where sweat equity is involved);
- **A professional filliere** (including architects, consulting engineers and town planners, quantity surveyors, land surveyors, conveyancers);
- **An institutional filliere** (including officials and politicians in the different spheres of government); and
- **A housing management filliere** (including housing institution and beneficiary groups in the case of communal housing projects).

These fillieres contribute differentially in the different housing development processes outlined above. This section of the report examine some of the salient features of housing development processes in respect of the contributions of the fillieres. First an overview of a “typical” allocation of roles and responsibilities in housing development processes as they are currently undertaken.

4.2.1 Typical developer driven project:

Call for proposals are issued by the provincial government or municipalities, to which developers reply based on a pre-identified site, or on a fairly general development concept. Alternatively, developers often submit unsolicited proposals to the provincial department of housing or the municipality.

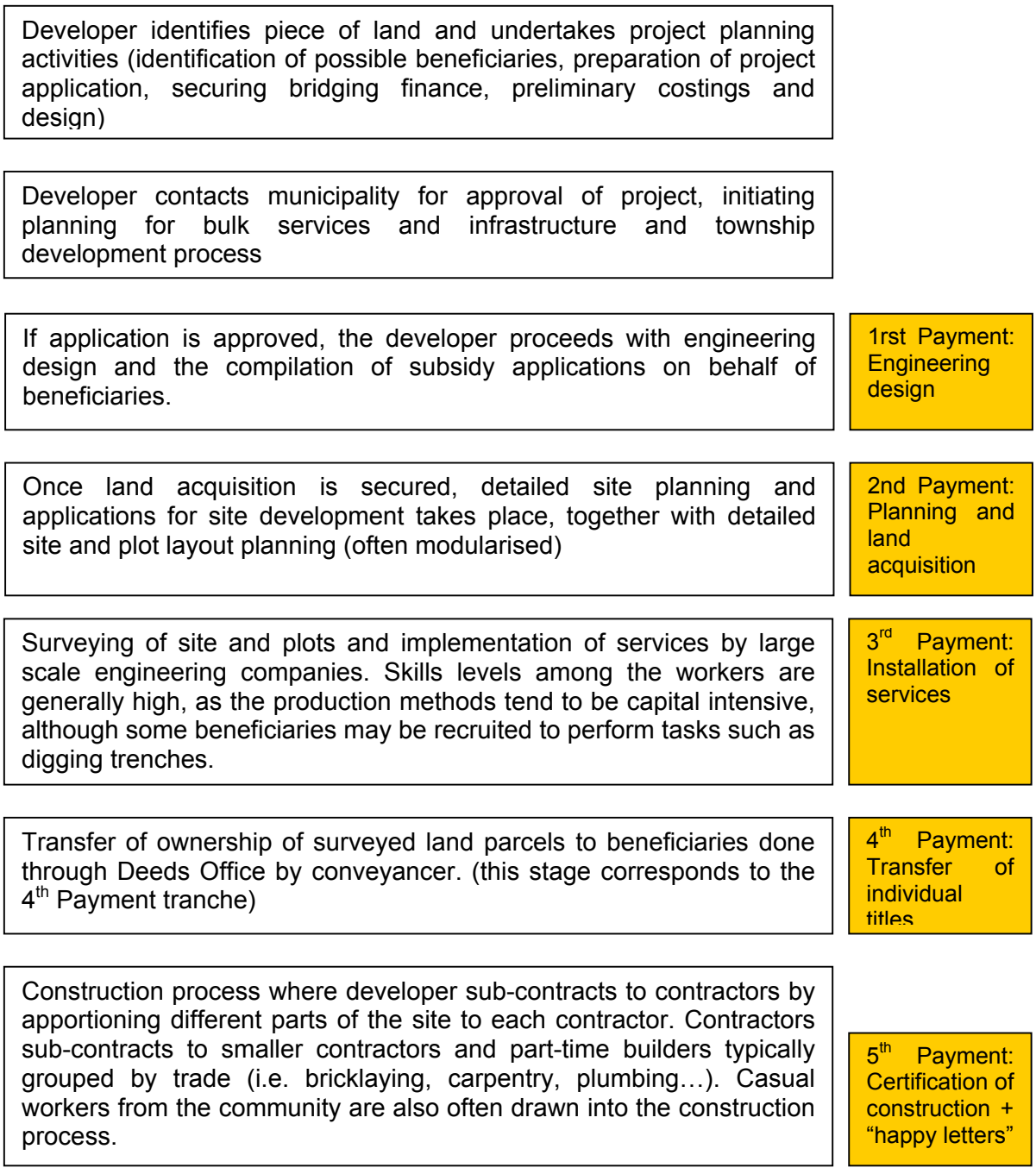
The municipality draws on its housing waiting lists (or those compiled by the provincial department of housing) to identify potential beneficiaries who were then contacted to verify their interest in the project. In some cases show-houses are developed and presented to potential beneficiaries. The developer then compiled subsidy applications for each prospective beneficiary and submits them to the province for approval. The Provincial Department of Housing screens the applications submitted by the developer against the provincial housing waiting list to verify the eligibility of the applicants.

Once the subsidy applications are approved, the developer initiates the first steps in the process of delivery. This comprised the design of engineering services, planning of the site and plot layouts to establish the township. Subsequently services are installed, the transfer of sites to beneficiaries is undertaken and the top-structure built. The scale of housing projects means that technical designs are often modularised and applied across the site. It also meant that once the initial training and deployment of sub-contractors had taken place, the implementation of services and construction is a fairly mechanistic process.

As a means of supporting employment in project areas where unemployment levels are very high, “local employment clauses” are often part of tender submissions to government institutions. This is in line with Affirmative Procurement policies of government to promote the growth of small and medium enterprises and the employment of previously disadvantaged persons. Ambert and Rachmul (2001) in their analysis of a large scale typical developer-driven housing project in Pretoria, noted that 93% out of a 400 workers-strong work force was local. The sub-contractors were in charge of training the local work force to acquire construction skills.

Figure # 2 below provides a graphic overview of the manner in which the technical aspects of developer driven housing development process interfaces with the project-linked housing subsidy regulations and financial draw-downs system.

Figure 2 : Linkages between technical process and subsidy draw-downs system



4.2.2 Small contractors, local labour and PHP processes

Small contractor-led development is yet to feature fully as part of the implementation of the housing policy. Gear (2000) notes that although the intention to use local labour and impact skills to beneficiary communities is often present in project proposals, the success of this approach is by no means guaranteed and in practice the former approach, where residents are just seen as cheap labour or no labour at

all, often prevails. Further, quoting Mjoli-Mncube (1996), Gear (2000) notes that the involvement of women in housing development processes depends on the extent of sweat equity of specific projects. The moment the activity is formalised and becomes an income generating activity, then men take over.

Overall, small contractors, unlike their larger counterpart, have not led housing development, they have merely been brought into the housing development process once a project has been approved and to take on the least financially rewarding task in the package of benefits associated with the housing subsidy system: the development of top-structures. The introduction of progress payments and of minimum norms and standards has meant that larger firms have increasingly viewed such activities as unprofitable and have sub-contracted construction to smaller, specialised entities.

Specific factors tend to restrict the entry of small contractors into the low-income housing construction market. In addition to lack of basic skills such as literacy and numeracy, small contractors are frequently disadvantaged by their lack of tendering, administrative and managerial skills, neither do they have access to business infrastructure, resources or access to credit for insurance, materials and tools and pay wages (Gear, 2000). Building-materials manufacturers and suppliers are also seen as not supportive of the requirements of such processes as they do not develop stock outlets in low-income areas, and are unwilling to deliver materials to informal settlements (Gear, 2000 and Development Works 2001). When materials are available locally, they are often overpriced and of inferior quality (Milne (1994) in Gear, 2000).

Small contractors- depending on the scale of a housing project- recruit smaller firms or artisans responsible for sourcing, training and managing local casual workers for each site. This layered division of production units means that there is generally a loose connection between the small contractors and unskilled labour on site, who may be drawn from the intended pool of beneficiaries or from nearby settlements.

Some delivery processes lend themselves better to small contractor led involvement in construction, such processes include in-situ tenure and housing upgrading (CSIR, 1999). Further, where households opt to improve and extend their starter-house, they often rely on local small contractors. The shifts in policy towards incremental housing development is partly premised on the desirability of supporting small-contractor's involvement, to achieve local economic development objectives as part of the implementation of state assisted housing delivery.

Finally, the involvement of small contractors and beneficiaries in the housing process is best achieved in terms of the PHP. In principle PHP provides for a flexible range of options in terms of which households are able to guide housing development, from recruiting developers, to small contractors and artisans, or by undertaking the construction of housing products themselves with some form of technical assistance. There are different "models" which place household involvement in the actual construction processes on a continuum of intensity. Specific features of this approach to housing development and its practices, relevant for the research are:

- The high level of flexibility in terms of housing products, materials, construction processes over time and in terms of labour;
- The critical role which individual households and groups of households play in initiating, leading and monitoring the housing development process; and

- The significant amount of facilitation and community mobilisation which accompanies the process, where beneficiaries work together to address common development issues, including- but not necessarily limited to- housing construction; and
- The focus of the process on maximising the output value of housing development.

Importantly, because these types of processes place beneficiaries at the core of the housing development process, and because PHP is supported in the new policy discourse, considering the construction sector as separate from housing beneficiaries may overlook a critical component of the housing development role-players and stake-holders in future. In addition, this also means that the impacts of HIV/AIDS, including economic impacts, on the unit of housing production, in terms of people-led development, is closely linked to the beneficiary households and communities as a whole.

5 CONSTRUCTION SECTOR TRENDS AND DYNAMICS

HIV/AIDS economic impacts affect different sectors differentially. Factors such as labour-force profiles, operational practices, and linkages between macro-economic trends and a specific sector, are key variable in determining the extent of vulnerability of a particular sector to HIV/AIDS impacts. In addition, such dynamics, in and of themselves affect the well being of particular sectors. The following section examines some of these dynamics to establish a baseline of factors affecting the construction sector, independently of HIV/AIDS impacts. It also seek to provide relevant information on specific characteristics of the construction sector, and its different role-players, to inform the identification of possible areas of stress on the sector in the context of HIV/AIDS.

5.1 Construction sector economic trends and dynamics

5.1.1 Definition of the construction industry

Before being able to look at points of stress relating to the impact of HIV/AIDS on the construction sector, it important to obtain some understanding of the profile of this sector. The sector is diverse and comprises many role players and these need to be identified in order to determine the size of the sector.

The work done in preparing the CETA Sector Skills Plan identifies three important categories within the sector, i.e. the contractors, the professionals and the materials suppliers (Department of Labour, 2001). The CETA Plan notes that this sector suffers from a lack of information, making it quite difficult to determine the size and profile of the sector with a high degree of accuracy. In the contractors' category, the large corporate contractors down to smaller firms is included. Many contractors are to be found in the building and civil industry components of the construction sector. It includes all the sub-contracted labour, which is estimated at around 50% of the total labour force in the sector. There are also some specialist contractors that can be included such as crust drillers (civil) and refactories (building).

The category of professionals includes a range of professions such as consulting engineers, architects, quantity surveyors, town planners and land surveyors. All of these have some involvement along the supply chain of housing delivery.

The materials manufacturers and suppliers category includes brick and block manufacturers, roofing, tiling and ceiling suppliers and manufacturers, bitumen and sanitary ware. This category (materials suppliers) is very important in terms of housing as the CETA research established that it is the most material intensive and represented 57% of annual turnover. The materials suppliers also contribute approximately R18m to GDP (Ibid.).

The CETA study attempted to quantify the size of the construction sector. While it acknowledged that there is a paucity of detailed information, it made some informed estimates where information was lacking, based on 1999 turnover figures. Size of the sector is determined by the turnover, the number of enterprises and the size of firms active in the construction industry.

The table below is extracted from the CETA study document and gives an indication of the turnover in the identified categories:

Table 2: Size of the Construction Sector: 1999

	Turnover RM '99 prices
Civil Industry	7 959
Other civil construction including Refractories Contractors	10 005
CIVIL INDUSTRY SUBTOTAL	17 964
Residential	10 234
Non-residential	13 661
Estimated informal sector*	500
BUILDING INDUSTRY SUBTOTAL	24 395
Total Formal construction industry	41 759
Grand Total (incl. set for informal activity)	41 759

Footnotes:
The size of the informal sector is estimated at R500 million (mainly within the residential sector) based on provisions made by the South African Reserve Bank.
Included in the above turnover statistics are the contributions of the member associations/institutes of the Professional Consultancies.

Included in the above turnover statistics are the contributions of the materials manufacturers and suppliers.

The above table shows that residential development contributes a smaller percentage than non-residential development. Construction contributes to nearly the same extent as residential development, although the latter only represents one quarter of the sector. No figures are given of the breakdown of the low income residential industry, but it is assumed that it accounts for a small percentage of the residential market.

5.1.2 Economic Trends in the Construction Industry

Trends in the last 20 years
The current trends in the construction industry should be seen in the light of the past trends which has resulted it in operating off a much contracted base.

Over the past 20 years the construction industry has undergone massive structural and operational changes which have generally mirrored the trend of declining investment in the economy. Total investment in construction (here meaning building and construction sectors) has declined by 33% since 1980 (Langenhoven, 2001).

Employment creation in the sector is directly related to the amount of investment spending taking place in the economy. It is widely believed that the decline in investment generally has coincided with the break in the growth performance of the South African economy since the gold boom and distorted investments that took place (ibid).

Over the past 20 years, investment by public authorities (government) has declined by 46% and investment by public corporations by 72%. Over the same period, the civil engineering market, relying heavily on government procurement contracts, has

also declined by 47%. This overall decline has not be matched by a real increase in private sector investment, amounting to only 13%.

Macro Economic Trends
The performance of the construction sector is closely related to the overall performance of the South African economy. Since 1998 there has been sustained improvement in the economy with economic growth of 3,1% in 2000 compared to 2% in 1999 and 0,7% in 1998. Gross Domestic Product (GDP) has increased over the same period and the Consumer Price Index (CPI) has declined or stabilised along with falling interest rates. This augurs well for investment although the Gross Fixed Capital Formation (formerly Gross Domestic Fixed Investment) was still recovering from a major decline during 1999 due to high interest rates then and a slow down caused by large corporate companies preparing for the new millennium. The GFCF is expected to show an increase, estimated at around 6,5% over the next three years (BIFSA, 2001).

On the global front, the economy has been constrained by the flow of private capital to emerging markets and perceptions of volatility in the region, now that South Africa is part of the global economy. This impacts on the economy by increasing domestic and international investor uncertainty. An indirect consequence of globalisation is that investment in fixed assets such as property has been declining from investment portfolios in line with international practice. Additionally, the declining exchange rate means higher costs for plant, equipment and fuel. The impact of this is higher costs and lower volumes of work.

The fall in interest rates is expected to have a positive impact, as it tends to stimulate the expansion of existing businesses which in turn creates more jobs. Additionally, the residential sector receives a boost when interest rates drop; it also is the sector which feels the benefit of lower interest rates first.

The general feeling from the building and construction industry[3] is that the economy has shown resilience in coping with the shocks of the depressed gold price, soaring oil prices, weaker exchange rates and floods in 2000, and is poised to resume more sustained growth in 2001. However, even the economic growth forecast of around 3%, may not effectively result in significant job creation.

5.1.3 Trends within the Construction Sector

There are a number of indicators that can be used to assess the current situation in the construction sector. The BIFSA, First Quarter Report has some useful information in this regard and is referred to here.

- **Investment in Buildings**

Overall investment in buildings improved by 3% in 2000 to R25,219 million (1999 prices) compared with –3,7% in 1999. Investment therefore increased by close to R1,000 million. Residential investment increased from R10,700 million in 1999 to R11,035 in 2000 (up 4,6%), and non-residential investment rose from R13,752 million to R14,183 million in 2000 (a real increase of 3,5%). The residential market performed slightly lower than anticipated, but given the several warnings of potential interest rate increases a cautious view were taken by the market. Combined to that

[3] As expressed by Ian Robinson (BIFSA) and Henk Langenhoven (SAFCEC)

was the unacceptable high level of debt that the consumers are carrying, which it appears were somewhat reduced (BIFSA, 2001).

- **Building Plans Passed**

The positive trend shown in the real value of buildings plans (based on private sector only) that have been passed continued during the last quarter. The real value of building plans passed increased by 6,5% in 2000 compared with l999. This improvement is mainly driven by the formal residential sector, (up 22% in real terms) and home improvements (up 15%). The non-residential sector remained depressed with the value of plans passed down 14%. However, the number of plans passed continues to increase and ended 12% higher for the 12 months to November 2000, indicating an increase in activity level, but for smaller type projects. (The average size per project dropped 30%) (BIFSA, 2001).

Figures released from Stats SA showed an upturn in the value of building plans passed. Latest figures show that the total value of residential plans passed rose 22% this year compared with 1999, representing more than 70% of the total square metres for which plans were passed by the private sector in the country. Significant increases were shown in the formal residential sector (up 24%), whilst houses smaller than 81 square metre (assuming this mainly to cover the low-income housing market) decreased by 6%. The table below reflects provincial demand for housing based on the number of dwellings for which plans were passed, comparing 2000 with 1999. Home building intentions dropped by 3% in Gauteng, overall, but rose by 33% in terms of the formal housing market. Western Cape decreased by 7% overall, but also showed positive growth in formal housing (up 33%) Kwazulu Natal's formal housing market rose 8%, while the Free State, North West and Northern Province show no growth potential for the coming year, apart from subsidized units in the Free State (which increased by over 80%).

Table 3: Plans passed for all dwellings (Stats SA, 2001)

Province (R'000)	YTD '00	YTD'99	% Change
Eastern cape	6120	5978	2.4%
Free State	6476	3762	72.1%
Gauteng	26304	27198	-3.3%
KwaZulu-Natal	4205	6044	-30.4%
Mpumulanga	4796	2774	72.9%
North West	3152	3692	-14.6%
Northern Cape	212	978	-78.3%
Northern Province	2139	3841	-44.3%
Western Cape	16093	17376	-7.4%
South Africa	69497	71643	-3.0%

- **Buildings Completed**

Buildings completed figures have also improved since the last BIFSA report. Overall, completions rose by just over 2%, with formal housing completions starting to come through at 5% higher than last year, whilst smaller low-income developments are still some 6% down. The larger non-residential projects (mostly offices and shopping space) are also reaching a completion stage, with the value of these completions increasing by 9% for the 12 months to November 2000 (BIFSA, 2001).

- **Building Contracts out to tender and contracts awarded**

The number of contracts put out to tender rose 46% for the year 2000. During this time, the formal residential market received 30% more tenders, and the non-residential market 60% more tenders. The low-cost housing received 25% less tenders. The value of contracts has also increased by 28% in real terms.

On a comparison with 1999, the number of contract awards has turned in July 2000, and ended 18% higher in 2000 than in 1999. However, in total the real value of contract awards were still some 14% down on 1999, most strongly shown in the value of non-residential projects where the value has decreased by 31%. Formal housing projects rose 39% in real terms. Thus once again, even though more work is becoming available, relieving pressure on the smaller contractors, these projects are smaller, thus giving only limited relief to the larger more established contractors (BIFSA, 2001).

The number of tenders received is used as one of the shorter term leading indicators and have shown a satisfying improvement in the formal residential market. However, not all contracts or projects are put out on tender (for example when an owner builder wants to build a home, he might choose a contractor without going through a tender and adjudication process), but most contracts on a larger scale will be put through a tender process. Public sector work, must however, be based on a tender selection process**.** The number of contracts on tender increased by 13% during 2000.

- **Projects Postponed**

During 1999, projects postponed represented 43% of new tenders received and increased from 340 to 528 with a total estimated value of close to R6 bn. In 2000, the number of projects placed on hold dropped by 44%, whilst one or two large postponements resulted in the total real value of projects placed on hold rising from R6,2 billion in 1999 to R7,6 billion in 2000, mainly driven by the non-residential sector (value of projects postponed increased by 60% to R6,8 billion) (BIFSA, 2001).

- **Liquidations**

Construction company liquidations, mostly voluntary and within smaller closed corporations, continued to escalate during the last few months of 2000. For the year 2000, the number of companies being liquidated rose 47%, to a record number of 550, with no evidence of a softening in the first two months of this year. In comparison, total liquidations in the country (across all sectors) decreased by 2,7%, pushing construction's contribution of the total number to 14% (from 9% in 1999).
In addition registration of new construction companies decreased by 28%, resulting, for the first time in recorded history, in a negative net change of 280 companies operating in the industry. Thus fewer companies are operating in the industry (BIFSA, 2001).

- **Turnover**

Turnover in the building industry dropped by 3,5% in 1999 vs 1998, but subsequently improved by 3% in 2000. The net effect is a sideways move from 1998. Residential investment rose 2,9% in the fourth quarter of 2000 and non-residential investment by 10% (BIFSA, 2001).

- **Confidence Levels**

Confidence levels improved by 45% in the third quarter compared with the second quarter of 2000, but then decreased by 47% during the last quarter of 2000. It is nonetheless still some 6% higher than the same period recorded in 1999. Architects' perceptions regarding the future of the industry rose 33% whilst quantity surveyors felt more pessimistic shown in the 12% drop of the index during the same period. On

average all sectors active in the industry felt more optimistic during the year 2000 compared with 1999 (BIFSA, 2001).

Confidence levels in the residential sector ended 67% higher on average for 2000 compared with 1999. The reasons for the decline in confidence levels during the fourth quarter compared with the third quarter in 2000 is unclear, since the market remained fairly stable during that time after rumours in the previous quarter (3rd quarter of 2000) of an interest rate hike. Nonetheless, levels of optimism were still 9,5% higher compared with last year.

- **Cement Demand**

Cement demand not only increased within South African borders (up 3,2%), but supply also increased to neighbouring countries (up 1.45%) although at a slower rate. Cumulatively, demand has increased by 3% for the 12 months to February 2001. Comparing just the first two months of this year, supply has already increased by 19% in total (BIFSA, 2001).

- **Importing of construction materials**

Another relevant aspects relating to employment that has been noted is the increasing reliance of construction sector role-players on the importation of building materials. This may mean that HIV/AIDS impact on local materials manufacturers may be down-played, although this would need to be verified in the course of the primary research.

- **Residential Investment**

Residential investment contributes around 45% of total building investment and reached a level of around R10,7 billion in 1999, which was 1,2% lower, (inflation adjusted) compared with 1998. The year 2000, driven by more favourable financial indicators such as lower and stable interest rates and the introduction of tax relief policies, achieved higher growth forecasts of 4,6%. Property, for the first time in more than a decade, showed a lucrative performance when real house prices increased by 12%. Property is once again on the road to becoming a lucrative and worthwhile investment (BIFSA, 2001).

- **Public Residential Investment**

The public sector contributes approximately 12% to residential investment (for the purpose of housing government staff), or between R1,2 and R1,3 billion per annum. However, determining the amount invested in low-income housing (which ultimately is not the property of government but the private sector) is very difficult due to the reporting structures utilized by the South African Reserve Bank. This ongoing debate has led to great distortions in the official figures published.

The South African Housing Fund as the official channel of subsidies being allocated, has an annual average budget of R3,000 million per annum. (Refer table below). It is uncertain whether or not the entire budget is actually spent each year, which would mean that theoretically close to 200,000 low cost houses could be built annually. It is most unlikely that 200,000 houses are built each year, for mainly two reasons. Firstly, no evidence of this can be found in the available statistics published by Stats SA (which is in fact showing a reduction in completion of houses smaller than 81 sqm) or in the number of contracts that had been awarded, obtained from another independent source. Secondly, if that many homes were built in South Africa, it would have been a much more attractive market to both local and foreign contractors, which it is not (BIFSA, 2001).

Table 4: Variations in amounts of the Housing Fund

	2000/01	2001/02	2002/03	2003/04	Average over MTEF period
Housing Fund	3001	3226	3440	3559	
Real % change	-1.15%	1.80%	1.13%	-1.04%	0,63%

Given that no real growth is anticipated in the SA Housing Fund during the next three years, BIFSA does not expect a major upswing in this market during the next 36 months

Summary of economic trends within the construction industry
The construction industry is a R42bllion a year industry of which the residential sector comprises R24b and the informal sector contributes R500m or only 1%. In the past 20 years the sector has undergone massive change, mostly due to a shrinking economy. More recently (2000-2001), the sector is showing signs of recovery as evidenced by the performance in the following indicators by the sector:

Investment in buildings has increased, especially in residential buildings;
- Increased in building plans passed, driven by increases in residential buildings;
- Increases in buildings completed, especially residential buildings;
- A rise in the number of building contracts out to tender, but low cost housing tenders did show a decline;
- Postponed projects had a lower impact on residential development as the projects postponed were mostly large, non-residential contracts;
- Turnover is showing an improvement after dropping in 1998 and 1999, especially in the residential sector;
- Confidence levels are up, especially in the residential and related sectors (architects);
- Cement sales are up;
- Residential investment is upbeat, with declining interest rates buoying this sector.

On the negative side,
- Company liquidations increased significantly in the construction industry and the number of new construction companies forming has declined. It is believed that these job losses are being absorbed into the informal sector and casual labour.
- Public residential development investment has been difficult to quantify and industry representatives believe that housing subsidy allocations are not being spent so delivery rates are lower than forecast. No real growth in this sector is expected.

These findings suggest that even with an upswing in the macro-economy and ensuing demand on the construction sector, the current condition of the sector as a whole is relatively stressed. The macro-economic impact of HIV/AIDS is examined in another section of this literature review. This section reveals variations in terms of quantifying impacts, but also agreement in forecasting the qualitative attributes of the macro-economic impacts as negative. The fairly symbiotic relationship between the construction sector and the macro-economy, suggest a level- as yet unquantifyable- of indirect impact of HIV/AIDS on the construction sector, if macro-economic impact projections materialise.

5.2 Construction sector employment trends and dynamics

The other impact on economic growth is unemployment. Composite official statistics often mask the reality experienced within the formal and informal sectors. The 1999 October Household Survey showed an increase in employment. However, formal employment declined by almost half a million jobs, while informal employment increased by almost a million[4]. This has an impact, especially on the construction industry as employers shed jobs and the responsibility to undertake training.

Although formal employment in the construction industry decreased by 6% to just fewer than 200,000, the number of part time employees increased by 41% to 25,000 during the third quarter 2000 (latest available figures published by Statistics South Africa). Overall construction employment has dropped by 2,7% to 222,000, implying that a further 6,117 people have lost their jobs in the last year.

A positive sign emerging from the published reports is that the rate of retrenchments has softened. For the first three quarters of 2000, severance and retrenchment costs amounted to R35 million compared with R70 million last year. There are a vast number of employees active in the construction industry (mostly in the building industry) that is not accounted for in the officially published statistics. These individuals operate as independent employers, but to a large degree sub-contract to main contractors or are involved in smaller type contracts. For this reason, total employment in the building industry is adjusted to include these individuals and is therefore estimated at 259,000 during 2000.

A key trend in the construction sector has been the shift from full-time to part-time employment and casual labour. The rise of labour only sub-contracting (LOSC), the fact that official statistics do not record the use of LOSC in the economic sectors, and low levels of unionisation in the sector make an appraisal of the actual number of workers particularly arduous.

Between 1994 and 1999, Statistics South Africa reports 130 0000 jobs have been lost in the sector as a whole or 36% of the formally employed.

Table 5: Changes in employment profiles in the construction sector (Stats SA, 1999)

	1998	1999	Difference
Site Preparation	12000	11606	-394
Building of complete constructions or part thereof	194665	169491	-25174
Building Installation	34992	32108	-2884
Building Completion	9393	8462	-931
Renting of construction equipment	3556	3672	116

The October Household Survey (1997) indicates that 76.4% of workers are employed in the formal sector, and 23.6% employment in the informal sector. Formal work is however being replaced with part-time or casual work.

[4] See Ian Robinson in State of the Building Industry : For the New Millennium, in the Professions and Projects Register 2001, pg 7

Table 6: Formal and informal employment profiles in the construction sector (Stats SA, 1999)

Workers	Total			African			Coloured			Indian/Asian			White		
Per 1000 * small size too small for reliable estimate	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total (employers, employees and self-employed)	567	523	44	397	372	25	86	80	6	15	13	2*	69	57	12
Informal sector	243	233	10	190	183	7*	30	29	1*	5*	5*	-	19	17	2*

The number of firms or establishments and the estimated number of people employed are shown for each category below:

Table 7: Estimated number of firms and people employed in the construction sector (Department of Labour, 2001)

CATEGORY	NUMBER OF FORMAL ESTABLISHMENTS	PEOPLE EMPLOYED
CONTRACTORS		
Civil	2 883	67 000
Building	8 000	230 000
Drilling	517	19 998
Refactories	100	1 515
Sub total	11 500	318 513
PROFESSIONAL		
Architects	1 700	3 900
Quantity Surveyors	300	1 700
Consulting Engineers	600	10 300
Sub total	2 594	14 608
MATERIALS MANUFACTURERS		
Brick and Block	Not available	9 887
Ceiling and partitioning	Not available	12 500
Bitumen	Not available	4 000
Sanitary ware	Not available	15 000
Tiles	Not available	4 110
Refactories	12	2 000
Sub total		47 497
GRAND TOTAL		380 618

This table does not include the informal sector. Estimates for the employment levels in this industry are based on a turnover of R500m per annum which translates into between 5 000 to 10 000. The fact that this industry is not well quantified is a problem. In addition, there are no statistics on the number of women employed in this sector. This is an identified gap in this research, given in particular the shift in housing policy development to support smaller scale production units for policy implementation. It may mean that only broad assumptions can be made and general conclusions derived, if more detailed information is not sourced during this study.

This table does, however, illustrate is that building contractors are the largest generator of employment in the construction sector, followed by civil contractors. Together they comprise 78% of the formal jobs in the construction sector.

Interestingly, the CETA Plan notes that the largest construction firms (turnover of over R1m per annum) are also the largest employers of labour. This has implications for labour as smaller firms will be less able to offer comprehensive employee benefits, skills development and training and offer career advancement. This may mean in the context of HIV/AIDS that whilst smaller firms may be less affected by factors such as increasing employee benefit costs, they may also be the least able to absorb some of the impacts labour vulnerability to HIV/AIDS. Conversely, it may also

mean that some of the costs associated with human resources development, and employee benefits of larger firm may be such that larger firm, may opt out of providing such benefits. Alternatively, they may also opt to change their employment practices by reducing proportionately their overall labour force, by relying increasingly on contract-based employment systems, where they do not have to shoulder directly, the HIV/AIDS impacts on their employees.

To sum up the trends in employment in this sector:

- Jobs are being lost in the formal sector;
- Jobs are increasing in the informal sector;
- Labour only subcontracting (LOSC) is on the increase;
- Women comprise a very small percentage of the labour force;
- Large firms have a comparative advantage in the industry;
- The rate of retrenchments is declining
- Unionisation is low.

If the propensity for employment creation of an upsurge in construction in the residential sector, appears relatively limited. This suggests that labour availability, in an environment, which appears to be over-traded, may not be detrimentally affected by HIV/AIDS impact. Whilst this may be so in terms of unskilled labour supply, the availability of semi-skilled and skilled labour may be undermined by the demographic impacts of the disease. Importantly, it is precisely this type of labour, which is particularly to contracting the virus, because of its high levels of mobility- from site to site, often away from regular sexual partners for prolonged periods of time.

5.3 Trends in the role played by emerging contractors

Recent government policies have seen increasing support for emerging contractors. Emerging contractors are particularly important in the low income housing sector. A recent study undertaken by the Department of Housing (See the Role Played by Emerging Contractors in Government's Low-cost Housing Programme, November 2000)[5] reveals some interesting trends about this sector that are noteworthy for this study.

Employment creation: Emerging contractors are used extensively in the delivery of low-cost housing. Most of this is in the form of labour only subcontracting and is drawn from local communities.
Type of employment: Of the total employment created, most is for unskilled labour from local communities. Bricklayers (33%), roofing and carpentry (26%) and plumbing (23%) constitute the main trades where local skills are used. In the unskilled category, general labourers constitute the main form of employment.
Source of labour: local committees assist in the appointment of labour on the projects. They insist on the use of local labour to the exclusion of people outside the area. This has the effect of restricting the movement of labour between projects, even within the same town at times. Employment creation is therefore not sustainable
Employment opportunities for women: women are marginalised in the construction industry, mostly due to traditional men's reluctance for women to work

[5] This study involved a survey of 60 housing projects and interviews with role players. Government policy was also analysed.

alongside them. Physical strength requirements are also cited as a reason. Women are mostly employed as administrators and cleaners. The situation is slightly different in some rural areas where men are unavailable due to migrant labour. In most rural areas women are involved indirectly, through brick manufacturing, sometimes even owning and managing such small businesses. There are some exceptions of projects where women constitute the bulk of the labour (2 projects in the Northern Province were cited).
Building costs and profit margins: this proved difficult to ascertain because emerging contractors are paid per unit house completed with labour and building materials included. Labourers, operators and tradesmen are not usually paid an hourly rate, but rather per unit completed. Overall, costs vary per province, being cheaper in the rural provinces.

The report includes some findings on the problems experienced by emerging contractors, which are summarised below:

Access to finance: emerging contractors battle to gain access to loan financing as they do not have any form of security.
Material Management skills: Skill needed to negotiate good deals with suppliers of building materials means that they often pay higher prices for materials. Project leaders are then compelled to provide materials on their behalf and also secure the sites to prevent theft of materials.
Cash Flow: emerging contractors have difficulty managing cash flow projections which results in material shortages and inability to pay labour at times. This can cause disputes and work stoppages.
Quality Control: Quality of product varies and there is some evidence that some skills transfer occurs in projects, especially if a semi-skilled worker is placed next to a skilled worker. However, there is little evidence that the SAQA accredited training is occurring.
Project management skills: These are lacking and this results in materials shortages, time overruns, wage disputes and contractors not fulfilling contracts with labourers.
Provision of training: Emerging contractors are exposed to very little training during the life span of a project.
Restraint of trade: while the activities of local committees do promote the use of local labour, they prevent any outside labour. This results in political discrimination and nepotism and stunts the development of emerging contractors.

On the positive side, the report did note that the creation of employment for local labour is significant, especially for unskilled labour. Additionally, some skills transfer is occurring adding to the knowledge base of local communities.

The report concluded with some proposals to feed into creating an enabling environment for emerging contractors. These are summarised as:

Provision of training: emerging contractors need training in project management, financial management, materials management and so forth.
Access to finance: Facilitation of access to finance is crucial and suggests that where a project and builder is enrolled with the NHBRC, guarantees from organisations such as NURCHA should be waived.
Joint ventures: Joint ventures between emerging contractors and between emerging contractors and established contractors will help build management skills and professionalism. This phenomenon is still developing and is seen as a way to support continued development of emerging contractors.

Removal of artificial barriers to trade: In order to sustain job creation, the free movement of labour should be encouraged. This means abolishing local committees as employment agencies.
Employment equity: government needs to address the employment of women in housing, support women-driven initiatives, establish a quota system for women companies and subcontracted labour.
Regulation of the home building industry: to be done through the NHBRC.
Affirmative procurement policy: support an affirmative procure policy by awarding housing projects to emerging contractors.

While the above study was based on a survey methodology, thereby providing accurate findings, many of these findings were also found to be experienced in an interesting case study of an emerging contractor in one of the Provinces (See Housing SA, July/August 1999, pg 26). This contractor was awarded housing subsidies (so in effect, he was an emerging developer) and experienced the following implementation problems:
Land had to be secured - there were problems in obtaining information on the land, availability of bulk services, ownership and so forth. He had to employ town planners at risk to assist with obtaining mineral rights holders' consent, geological reports and bulk services. These activities incur significant professional costs, which may not easily be met by small contractors.
Management and finance - the contractor did not have an office with sufficient capacity or capital to equip the office. Cash flow problems were experienced and finance was not forthcoming from commercial banks.
The conclusion was that government should assist emerging developers by doing the groundwork on a project, and the costs of this can be recovered later from the project.

5.3 Policy and legislative Trends

The Construction Industry White Paper : Creating an Enabling Environment for Reconstruction, Growth and Development in the Construction Industry. In response the post-1994 government's Reconstruction and Development Policy (RDP), the Department of Public Works (DPW) was mandated to develop a construction industry policy in early 1996. A Green Paper was prepared for comment in November 1997 followed by the appointment of an inter-ministerial Task Team on Construction Industry Development to finalise the White Paper. The overall vision of the White Paper is "of a construction industry policy and strategy that promotes stability, fosters economic growth and international competitiveness, creates sustainable employment and addresses historic imbalances as it generates new industry capacity for industry development. The paper sets out five important programmes. Each is mentioned briefly below and the reasons for the policy are summaries.

Developing a Stable Delivery Environment : Because the industry operates in a complex environment and is mainly project specific, is dependent on labour and is highly mobile (each project requires the assembly of all the role players), it is unable to achieve significant levels of growth and development to make it internationally competitive. This impacts negatively on job creation, employment stability, sustainable growth, investment in human-resource development and plant and equipment. The decline in investment has also resulted in shedding of labour and an increasing reliance on labour-only subcontracting (LOSC) which has further contributed to declining capacity, productivity and output quality. These trends have resulted in considerable loss of trained personnel and an increase in LOSC. The

increased use of LOSC has contributed to declining health, safety, productivity and quality standards as the employees of LOSC have historically been unable to access training. To counter these problems, government has identified the following programmes:

- Promoting public/private-sector partnerships
- The Scheduling of public-sector construction spending
- Support for labour regulation, minimum wages and working conditions and support for organised labour
- Introduce a Pilot approach to procurement incentives, a pilot register of contractors for government contracts, training and development.

Enhancing Industry Performance

The volatile nature of the construction sector over the past two decades has left the industry with capacity and performance constraints. It is estimated that more than half the firms that were active during the industry peak in the early 1980s have either dramatically reduced their capacity or left the industry. There is a lack of best practice standards that the industry can aspire to and there is no national agency capable of measuring and monitoring best practice. A need for affirmative procurement policies was also identified

In response government will:

- Establish the CIDB as a statutory national authority to implement standards
- Establish a system of contractor accreditation

Restructuring Industry Education, Training and Human-Resource Development: With the change in shift to LOSC and the emergence of new firms outside the formal sector, there have been falling contributions to training institutions and fewer enrolments. Ironically, existing training institutions are facing closure while the majority of the sectors' workforce is unable to access such training. Formal companies have cut back on training budgets, exacerbating the situation.

The following key interventions have been proposed to address these problems:

- Establish a Sector Education and Training Authority (this has been achieved)
- Establish a new educational framework in construction
- Finance training through an industry-specific levy.

Promoting New Industry Capacity and the Emerging Sector: given the trends in this sector and the historical and economic constraints facing full participation by small contractors in the economy, government is committed to brining small business into the mainstream economic activity. It recognises the promise that these small business have in generating income and jobs, their low capital investment per unit of output, competitiveness on certain types of projects, the low entry level in terms of skills and capital. It is hoped that they can provide a platform for future black-owned medium-sized and large-scale firms.

However, they encounter numerous problems. According to the White Paper, small contractors experience lack of managerial and marketing ability, lack of access to capital and inexperience which in combination contributes to a vicious circle that stifles growth and development. The erratic availability of construction work diminishes the value of on-the-job, informal training. This is in contrast to the old apprenticeship system making it unlikely that new generations of semi-skilled labour will be able to pass on adequate skills to future workers. This will result in a progressively deteriorating standard of skilled work on site. Many (up to 50%) new firms fail within their first three years. Additionally, the requirement for employing

local labour means that these contractors are unable to establish and consolidate a permanent skilled workforce.

Programmes to address the problems that emerging contractors face include:

- Through the Emerging-Contractor Development Programme (ECDP) the DPW want to ensure a steadier flow of work to small and emerging contractors.
- Improve access to finance through the National Urban Reconstruction and Housing Agency (NURCHA) and loan-guarantee funds such as Khula Enterprise Finance Ltd.

Developing the Capacity and Role of the Public Service: this aims to maximise employment opportunities through labour-intensive construction. Programmes that are proposed include:
- Delivery to target the marginalised.
- Overcoming regulatory impediments to industry performance.
- Improving public-sector capacity to manage delivery.
- Promoting regional co-operation.

The DPW is responsible for co-ordinating the development, monitoring and dissemination of government policy for the construction industry. It will give effect to the programmes outlined above within the framework of the National Public Works Programme (NPWP) and in association with the CIDB and the ECDP. A brief description of these two new institutions is provided below.

The CIDB: A statutory body, which will report to an Inter-ministerial Committee (Transport, Housing, DWAF, Provincial and Local government). It has been tasked with preparing a Business Plan that must cover the following areas of its activities:
- Review strategic issues critical to developing an enabling environment;
- Establish a client forum;
- Contractor registration
- Develop priorities;
- Provide co-ordination and research for the industry;
- Develop performance criteria for benchmarking the industry;
- Dissemination of information

The ECDP: to provide direct support to small scale and emerging construction enterprises to assist with transformation. Among the many tasks this agency has been allocated, the following are noted:
- Promote suitable contracting models;
- Review streamlining of payments;
- Develop training;
- Access to credit;
- Access to training.

Both the White Paper and the CETA Sector Skills Plan for the construction sector indicate a commitment by government to improving the sector. They have created a greater awareness of the problems that emerging contractors face and have put in place programmes to address these. This is encouraging. However, the White Paper is silent on the impact of HIV/AIDS and is generally gender neutral. This is a serious gap in government policy, which need addressing in the future. The CETA Plan does make reference to increasing access to women in the construction sector.

Procurement Policy
Procurement policy has undergone reform since the introduction of the new Constitution. To implement the Constitution, the Preferential Procurement Policy

Framework Act was introduced, requiring organs of state to determine their preferential procurement polices around the following policy themes[6]:

- Redressing skewed business ownership patterns on racial lines arising from apartheid;
- Greater inclusion of historically disadvantaged individuals;
- Job creation;
- Poverty alleviation;
- Redressing uneven regional development;
- Increasing South African content;
- Quality standards.

Priority is to be given to the first two categories. Interim strategies for reform are outlined in the 10-Point Plan. The White Paper outlined above does address many of the procurement issues for the construction sector.

At the level of housing policy, the National Department of Housing has also introduced a new procurement policy. This is to bring the tendering on housing projects into line with general procurement policy. The new policy will ensure greater competition between developers as they bid on specific projects identified by local and provincial authorities.

5.4 Impact of Trends on the Construction Sector in the Future

According to Langenhoven (The Professions and Projects Register 2001), the construction sector is in the middle of a second revolution and the following trends which are important for the future of the industry, are emerging:

Smaller industry but more players
As mentioned previously the overall size of the industry has halved since the 1980s yet the number of contestants has doubled. Contracts are becoming smaller and smaller, with smaller and smaller contractors competing for them. SAFCEC estimates that the average size of contracts has declined by more than 10% annually since 1994. It is felt that this reduces the chances of success for the smaller contractors.

Another related trend is the change in the industry terrain from clear small, medium and large companies to large companies versus the rest. This has created a large 'no man's land'. Competition is toughest among 'the rest', where overtrading is endemic.

Erosion of the assets base
Langenhoven notes that there are two reactions to the overtrading phenomenon. The first is re-capitalistion, the other capitulation. He notes two responses to re-capitalisation. One is that new companies form continuously, often replacing ones that could not survive. This does not create new jobs or additional output but instead exacerbates the casualisation of labour and hampers the development of skills. The other response is to form new alliances or capture new niche markets. This is usually in an attempt to compete for large contracts, especially internationally.

With respect to capitulation, he notes that experienced people are leaving both the private and public sectors. Ironically, the demand for them has increased as projects get smaller and smaller. Training has ground to a halt. Training of a short-term

[6] See South African Country Status Report form Regional Conference: "Developing the Construction Industries of Southern Africa" page 3.

nature on projects for local labour is happening but this has become a consumption item as it cannot be used more than once (when the project ends the local people employed return to being unemployed as they cannot move to another project). Thirdly, the capital asset base is being eroded as plant and equipment is not replaced in the face of uncertainty. Unit sales of plant and equipment has dropped by more than 50% since the early 1980s.

Globalisation
The lack of domestic construction work and the attraction of a world market has caused a massive movement of large (and some medium) companies into international markets.

Separation between residential/home building and non-residential and civil engineering construction sub-sectors
For residential development, contracts are smaller, dispersed geographically and require low capital assets to construct dwellings. Non-residential building works tend to have large companies, have developers or the government as clients and require a large capital base. This divergence has implications for small contractors who become more marginalised.

Low-income housing
Conditions in this market are not as favourable as in the formal residential market as it is more dependent on public finance (subsidies). BIFSA has done research to support a controversial view that no more than 115 000 low income houses are built each year, despite the Department of Housing's statistics of over 200 000 being built per annum. BIFSA predicts that the demand for housing of 300 000 units per annum will be cut by half by 2010 due to the impact of AIDS on population growth.

Hindle (The Civil Engineering and Building Contractor, February 2001, pg 50, 51) makes a number also notes that the construction sector:

- Is poorly equipped to handle competition as firms generally offered the same services in the same way and only competed on tender price. This applies equally to professionals and consultants. Other businesses in a global scenario are able to adapt to compete, yet this sector has been very slow to do this. In fact he notes that an ever-increasing number of economists, academics and clients believe the construction industry is an 'industrial adolescent, trapped in a 'time-warp' with delivery processes that might have been appropriate at the beginning of the 20th century, but which are highly inappropriate in the 21st century'. He believes that proven business practices from other industries need to be adopted by the construction sector and this must be done soon.

- Has not been able to innovate and develop its business processes to meet customer expectations. Customers expect a range of integrated services. He notes that 'for years the construction industry has worked as if there wasn't a client and if they did recognise one, it was the enemy'.

- Is experiencing change from outside, forcing the government to intervene through institutions such as the CIDB. He notes that 'when change outside the firm exceeds change within it, your processes are obsolete and its just a matter of time before you discover this in a most unfriendly way'.

- Has adopted inappropriate survival strategies instead of changing. For example contractors who operate in a specific sector will move into another to maintain

turnover. General contractors and civil contractors move into housing or move up or down market ore even move to new geographic locations (seen in South Africa by an expansion into Africa).

- Needs to understand the changes that are happening and the way in which the trends are likely to unfold.

These trends are particularly relevant for the research process. In particular, the fact that the target role-players whose involvement is sought after in terms of the Housing Policy Review (small contractors), trade a highly competitive market, with little operation support and institutional experience, suggests that they are fragile and highly vulnerable to both extraneous factors of change (including inflation, and budgetary allocation to housing development)and endogenous factors of change (in particular availability of skilled labour). Should HIV/AIDS prevalence among this type of role-players be high, as increases in morbidity and mortality levels within their rank, may restrict considerably their ability to overcome those factors to which they are currently vulnerable. Together, business vulnerability and HIV/AIDS impacts, may affect their ability to continue trading, and playing the role which the housing policy context attributes it, as key implementation actors.

6 COST FACTORS AFFECTING THE DELIVERY OF LOW-INCOME HOUSING

Assessing the dynamics affecting the construction sector as a whole provides a baseline from which to assess possible HIV/AIDS impact scenarios, at a fairly broad, macro-level. A more direct measure to assess impact may be to base estimations of the impacts based on the cost of production of the housing units developed in low-income housing delivery processes. Indeed, an important factor of operational viability for construction role-players is profitability levels. For private sector role-players these are directly related to the production price of a specific commodity. Where profitability objectives do not form the core of housing production processes- i.e. in the case of the People's Housing Process- financial feasibility is also a critical consideration, although a not-for-profit approach to housing development supposes greater flexibility in respect of housing costs. The production price of a specific commodity is related to input costs and process costs. In the low-income housing sector, the supply chain for value-add, comprises variables such as land prices, scale of housing projects, raw and processed materials, equipment, labour and professional fees, as well as fixed costs such as registration fees and stamp duty payable to the Deeds Office. These direct costs and indirect costs are also affected by factors such as holding fees arising from delays in the supply-chain process (such as delays experienced in the land-planning and development process) and labour productivity levels. Again, it is feasible to assume that the respective contribution of variable, fixed and indirect costs to the total production costs per unit would vary according to different housing delivery processes.

6.1 Regulated costs

In the South African construction environment, housing delivery input costs are artificially manipulated by the financial limits of the subsidy system and its amounts. These dictate, to a large extent, the input costs which construction industry role-players allocate to the production process and products.

The following table presents a typical subsidy breakdown for project-linked subsidies. However, this table only provides an indication of the costs associated with development processes that are incurred to the state- not the actual costs.

Table 8: Project-linked subsidy guidelines (2000 prices) (Ambert and Rachmul, 2001)

Payment 1: Engineering designs	680
Payment 2: Approval of general plans	350
Payment 3: Installation of Services	5970
Variation (15%)	710
Subtotal inclusive of variation	6680
Payment 4: Transfer of ownership	750
Payment 5: Top structure	8250
Variation (15%)	1690
Subtotal inclusive of variation	9940
Total 5 phases	16000
Total 3 phases inclusive of variation (15%)	18400

According to these guidelines the proportion available for each phase is as follows:
Payment 1: 4.25 %
Payment 2: 2.1 %

Payment 3: 37.3 %
Payment 4: 4.6 %
Payment 5: 51 %

A 15% variation subsidy was introduced in terms of the Subsidy scheme to cover the requirements of land development where geo-technical conditions would add significant costs (i.e. gradient, nature of the soil…). Importantly this increment is not applicable to the planning and tenure costs of the housing programme but only to the services and the top-structure.

Where the variation increment is added to the subsidy amount these percentages are altered as follows:
Payment 1: 3.6 %
Payment 2: 1.9 %
Payment 3: 36.3%
Payment 4: 4 %
Payment 5: 54 %

In terms of incremental housing development processes, the manner in which costs are defined is slightly different, and corresponds to the following rolling budgetary allocation.

Table 9: Incremental housing subsidy breakdown (Gauteng Department of housing, 2000)

Mayibuye	
Town planning (approval of general plans)	598
Engineering planning	41
Land costs	1032
Conveyancing	266
Subtotal	1937
Essential Services	
Engineering designs	365
Installation of services	5266
Sub-total	5631
Variation (15%)	845
Subtotal inclusive of variation	6476
Consolidation subsidy	
Top structure	8432
Subtotal	8432
Variation (15%)	1265
Subtotal inclusive of variation	9697
Total 3 phases	16000
Total 3 phases inclusive of variation (15%)	18400

Again, these guidelines reflect costs to the state, in terms of the subsidy amount, and not actual costs. The following table, which compares the three types of delivery model outlined above, indicates wide variations in terms of costs per square meter which reveals wide variations in terms of output costs.

Table 10: Costs of different housing delivery models (BESG, 1999)

Delivery Option	Description	Cost per m2 (excluding materials)	Cost for 30m2 house (excluding infrastructure)
Contractor Built	Labour and materials contractor builds house, architect/clerk certified completion	R 410-00	R 18 300-00
Small Contractor	Labour only small contractor builds house, owner responsible for ordering materials. Housing advisor provides advice and certifies completion.	R 80-00	R 8 400-00
Assisted Mutual Help	Members of households are trained and managed by a construction manager in the building of houses, materials bought in bulk for project	R 150-00	R 10 500-00

These variations suggest two key differences in terms of output costs:

- The first is that the difference in cost between contractor built housing and small contractor built housing is indicative of cost factors which are born by developers, including high company overheads (to cover business infrastructure, employee benefits, etc…) and specific input factors (bridging finance for the purchase of materials, etc…). In the small contractor process, the household also takes on a share of the responsibilities, which may not have an outright financial cost, but amount to a social household cost.
- The second variation can be attributed to additional costs required for facilitation, training and management of households, and to the greater amount of time required from the start to the completion of the construction process. In addition to these costs, significant social costs are borne by households; in particular this specific model supposes a high level of availability of household members or specific members in the community, who typically may have to forego other livelihood opportunities.

The operational costs of housing delivery actors, from materials manufacturers and suppliers, large developers, to contractors, small contractors and builders, as well as labourers, are presumed to be covered by the input costs of production. Operational costs are specific to the nature of the organisation and its specific institutional arrangements; however factors such as ratio of overheads to turnover affect viability and profitability levels. Whilst small contractors and self-help housing role-players may not necessarily have to bear high industry-related overhead costs, their operational costs are often intimately related to household running costs (i.e. if the unit of production is the household and its members, then costs such as healthcare, shelter, food and clothing directly compete with construction costs).

In terms of the institutional housing subsidy, production costs vary according to the type of housing being developed, its location and scale. Importantly, the subsidy

amount available for such development is not graduated according to the income profile of prospective beneficiaries, but entitles the housing institution to access the full R16 000 per housing unit to be developed. The overwhelming majority of institutional housing subsidy projects have been developed by augmenting the subsidy amounts with other sources of finance (Development Works, 2001 (b)). Typically, these include loan finance and an equity contribution from beneficiaries. Additional contributions have also often included, discounted prices for land and top-up grants for services granted by municipalities. The value of these housing products, which beneficiaries refer to as "town-houses" tends to be high, varying between R 65 000 and R 85 000 (Development works, 2001 (b)). The loan finance component implies an ongoing financial contribution from beneficiaries and some level of risk taking by the housing management institution. In this market, developers have been the most active of role-players, but have overwhelmingly avoided placing themselves at risk, in terms of prospective "repayment" defaulting. One may infer that HIV/AIDS impacts for the construction sector would be therefore minimised for the construction of this type of housing. Yet, this would be erroneous, as the involvement of housing management institutions (who carry the bulk of the financial risk) is a precondition for accessing institutional subsidies. As such, if the institutions are affected by HV/AIDS (both directly in terms of their own labour profiles, and indirectly through the beneficiaries of the housing stock they "own") then construction of this type of housing may also be affected, as financial viability may diminish.

Input costs are also correlated with the nature of the commodity to be produced. In other words, the end product contributes to defining the costs. For instance, specifications on the size, service levels, spatial location, and quality of materials and finishes will affect the total costs of production of a specific housing product. National- and often provincial- minimal norms and standards set up in 1999, specify not only minimum standards for the provision of housing using the subsidy mechanism but also provide cost estimates to guide expenditure on different items related to the housing product.

The impact of these specifications in shaping not only input costs but also total costs of production should be pointed out at this stage. Indeed, regardless of the housing delivery process, specifications mean that the profitability levels for construction role-players has and will continue to be affected. The very fundamental basis of private enterprise is that profits are generated through 'increasing efficiencies'[7]. In the case of developer driven housing such efficiencies have been gained through 'cost maximization'. In crude terms, this means providing a standard product at a cheaper output level, therefore gaining more in profit margins. Profit maximization drives the internal logic of any commercial enterprise. Therefore increasing standards or increasing output per unit will cut into the profit margin of a commercial enterprise denying the underlying logic of that enterprise.

A high level of prescription- in terms of inputs and outputs costs- suggest a fairly restricted scope for manoeuvre in terms of the process and products of

Tex Box 0 : Limited extent of beneficiary influence in housing delivery (Tomlinson, 1997)

The implementation of the housing policy reveals critical shortcomings of the policy in respect of the experience of beneficiaries, at the project level. In respect of the implementation process, the research examined the following issues:

- How the beneficiaries hear about the housing subsidy scheme;
- Ease of understanding of the information about the housing subsidy scheme and project;
- The choice of developer;
- The experience of social compacts;
- The choice of housing product.

The finding of this set of questions depict a situation where the process is primarily developer-led, with little or no involvement of beneficiaries in selecting no only the type of housing product or the developer, and little understanding of the housing policy.

[7] Richards, K. (2001) Conceptual Contribution to….

housing policy implementation. In fact, it places implementation at the mercy of fluctuations in conjectural dynamics such as inflation, attrition in the size of the demand

Given the developer-led nature of housing delivery, the extent of beneficiary involvement in defining those specifications is generally limited. The gravity of housing backlogs tends to suggest that accessing a housing product, irrespective of quality or location has had little to do with choice. The shifts in policy direction and implementation provide an opportunity for changing this state of affairs. Importantly, a greater degree of flexibility and responsiveness is precisely one of the stated objectives of the policy review.

6.2 Variables and cost-drivers

6.2.1 Cost of materials

Ifab International Inc (in BESG, 1999)estimates that generally 70% of top structure costs go towards building materials. This proportion of costs may be decreased extensively, for instance, where beneficiaries opt to make use of recycled materials- as is often the case in PHP housing development (Development Works, 2001 (a)). Finally, the cost of materials is directly affected by the location of specific housing development projects as the transportation of materials will affect their price.

6.2.2 Size of the housing structure

The minimum size of permanent residential structures to be provided by means of the balance of the subsidy is 30 m2. The MEC for Housing may approve:

- The increase of the minimum size where it is feasible to cap the amount in respect of services at a lower level than R 7 500, or where construction costs in areas make it practicable; or
- The reduction of the minimum size of the top structures to 27sm in instances where additional allowance is deemed necessary in respect of excessive slopes and sandy soils. The MEC may further reduce the size of the permanent structure to 24sm in instances where the additional allowance in respect of medium dolomite has been approved.

The National Norms and Standards will not be mandatory in respect of dwellings and or projects that are developed in terms of the Rural Housing Subsidy Instrument

6.2.3 Size of plots and location

Most low income housing currently consist of dwellings on individual plots. This means that land costs are defied by the size of the plots and the location of a particular housing development. This has been a key factor in leading to the continued peripheralisation of low-income housing development, as developers and contractors have sought to minimise the proportion of the subsidy used to purchase land. Typical plot sizes which were 200-300m2 in the early 1990s are now 100-150m2 (BESG, 1999). Variations on the minimum plot sizes exist between the provinces, based on factors such as land availability and geo-technical conditions.

6.2.4 Service standards

Minimum standards have been set for service levels, nationally. Provincial variations do exist, however; with the more urbanised provinces calling for full service levels (i.e. waterborne sewerage, and individual house connections). Further, whilst some municipal engineering departments insist on higher service levels, based on their assumption that this would decrease maintenance costs; other municipalities argue that affordability levels are such among target beneficiaries that non-payment for services may result in the financial unsustainability of higher service levels. These variations in service levels (presented in BESG 2001) have obvious cost implications, and are detailed below.

Cost of two water supply options are as follows:

- Yard tank (200 litres per day): Internal infrastructure costs R 1000-1500, bulk and connector infrastructure cost R 500-1000, Operating cost per month R 15-20
- House connection (750 litres per day): Internal infrastructure costs R 2000-2500, bulk and connector infrastructure R 1500-2500, operating cost per month 30-80.

Cost of sanitation options:

- On site (aqua privy or VIP): Internal infrastructure costs R 2000-2500, bulk and connector infrastructure cost R 0, Operating cost per month R 5
- Off site (waterborne sewerage): Internal infrastructure costs R 3000-5000, bulk and connector infrastructure R 2000-3500, operating cost per month 15-20 (excluding water).

The width and standard of roads has a major impact of the cost of housing
Cost of road options:

- Graded with unlined stormwater channels: Internal infrastructure costs R 2000-2500, bulk and connector infrastructure cost R 1500-2000, Operating cost per month R 15
- Gravel road with lined stormwater channels: Internal infrastructure costs R 2500-3000, bulk and connector infrastructure R 1500-2000, operating cost per month R 15.
- Narrow tarred roads with no kerbs and with lined stormwater channels: Internal infrastructure costs R 4500-5500, bulk and connector infrastructure cost R 1500-2000, Operating cost per month R 15
- Paved roads with kerbs, gutters and piped drains: Internal infrastructure costs R 8000-10000, bulk and connector infrastructure R 1500-2000, operating cost per month 10 (excluding water).

6.2.5 Scale as a variable

The scale of housing projects affects economies of scale, which has an impact on the level of profitability of specific projects and also on the manner in which input costs are determined. It means for example that professional fees can be negotiated that bulk prices can be obtained from suppliers. Significant savings can also be achieved in respect of repetitious activities and by modularising layouts, house types and services implementation.

Whilst economies of scale may be achieved for large projects, which maximise financial viability, and profit where profit-motivation is the primary objective of housing development; severe social and environmental costs can also accrue. Objectors to

this type of project generally mention these. Objections to land development applications, on environmental grounds, may in fact delay the development process, thereby incurring holding costs for developers and contractors alike.

6.2.6 Other variables:

Other variables include factors such as:

- Professionals fees for (town planning, surveying, etc…) which can be negotiated;
- Fully-subsidised housing products are exempt from taxation on first acquisition, whereas other products incur Value Added Tax (at 14% of the retail price);
- Bond-registration incurs a 70% increase on the costs and time-requirements involved in the mortgage system, such as the need to endorse the title deeds
- Absenteeism at the time of handing-over to beneficiaries (up to 5% of sites in any given project) incurs considerable holding and administrative costs to developers; and
- Other holding costs related to land development applications. Among these, the need to comply with land use management procedures (like re-zoning) and township establishment applications are particularly complex and tend to lend themselves to delays.

The above provides an overview of the costs of production, both input and operation costs. It is yet unclear, how HIV/AIDS impacts may affect those costs and their respective impact on the financial viability of operators active in the low-income housing development sector. What is important to emphasise at this stage, however, is that regulated costs (in particular those involved in meeting norms and standards) can have a significant impact on financial viability for specific role-players. In fact, minimum norms and standards have been identified as the primary motivation for large-developers to withdraw from the market. Similarly, variable costs, such as holding costs derived from issues such as delays in approval for land development applications, and absenteeism, at the time of handing over, may be too heavy a load to carry for small contractors. What this reveals is the high level of vulnerability of construction sector operators to factors beyond their immediate realm. For example, one can speculate that should the land devel0opment planning system, manned by a relatively small labour pool, experience decreases in capacity because of HIV/AIDS impacts on human resources, the entire process of housing development would be affected, and in turn the construction sector.

7 HIV/AIDS IMPACTS

Section 7 outlines key HIV/AIDS impacts by presenting research findings in respect of macro-economic impacts, the individual and households, firms and companies.

7.1 Introduction

The first two cases of AIDS were identified in South Africa in 1982 (Suntner and Whiteside, 2000). South Africa is currently experiencing one of the fastest growing epidemics in the world, with an additional 1 500 infections, daily, amounting to 3,6 million South Africans in mid-1999 (Marais, 2000). The disease is spreading unevenly across the provinces, as summarised in the following table presented in the AIDS Review 2000:

Table 11: Spread of HIV infections across the provinces (AIDS Review, 2000)

Province	1995	1996	1997	1998
South Africa	10.4	14.1	16.0	22.8
Eastern Cape	6.0	8.1	12.6	9.9
Free State	11.0	17.5	19.6	22.8
Gauteng	12.0	15.5	17.1	22.5
KZN	18.2	19.9	26.9	32.5
Mpumalanga	16.2	15.8	22.6	30.0
Northern Cape	5.3	6.5	8.6	9.9
Northern Province	4.9	8.0	8.2	11.5
North West	8.3	25.1	18.1	21.3
Western Cape	1.7	3.1	6.3	5.2

7.2 Impacts on macro-economy

Whilst macro-economic impact research processes have, to date, been in agreement, in as far as they all foresee a profound impact on the country's economic outlook, the exact nature and extent of projected impacts may vary. However, as Sunter and Whiteside (2000) argue, in macro-economic terms, the epidemic is not yet having a measurable impact, as HIV/AIDS's impact tends to be gradual, subtle and incremental. The first model developed to produce reliable estimates of the progression of HIV/AIDS in South Africa was the Metropolitan-Doyle model formulated in 1988. It has since been reviewed, and followed by other models including the Actuarial Society of South Africa Model. Most models are based on some form of forecasting of the impact of the pandemic of HIV/AIDS on the population differential and apply the findings to macro-economic inputs and output projections based on specific economic linkages by reviewing demographic impacts on growth scenarios.

Such demographic and economic modelling work has been undertaken by ING Barings (1999 &2000), the Futures Group International (1999), the Bureau for Economic Research (BER) based at the university of Stellenbosh, Abt Associates (2000), Arndt and Lewis (2000), the Actuarial Society of South Africa, and the Health Economics and HIV/AIDS Research Division (Heard) of the University of Natal. The

key variables, identified by Arndt and Lewis (2000), among these models pertain to the levels of aggregation of data pertaining to:

- The type and number of productive sectors which they use;
- The different factors of production (in terms of labour skills, and physical capital);
- Different household income groups categorisation;
- Different government line function spending; and
- Different government investment categories.

The basic assumptions of these modelling exercises are that the epidemic impacts on the economy by:

- AIDS deaths lead directly to a reduction in the number of workers available. These deaths occur to workers in their most productive years. As younger, less experienced workers replace these experienced workers, worker productivity is reduced.
- A shortage of workers leads to higher wages, which leads to higher domestic production costs. Higher production costs lead to a loss of international competitiveness which can cause foreign exchange shortages. CPI inflation will pick up due to cost pressures on companies that are passed on.
- The costs of the epidemic are likely to cause a domestic savings squeeze.
- Lower government revenues and reduced private savings (because of greater health care expenditures and a loss of worker income) can cause a significant drop in savings and capital accumulation. This leads to slower employment creation in the formal sector, which is particularly capital intensive.
- Reduced worker productivity and investment leads to fewer jobs in the formal sector. As a result some workers will be pushed from high paying jobs in the formal sector to lower paying jobs in the informal sector.
- The overall impact of AIDS on the macro-economy is small at first but increases significantly over time (Futures Group International, 1999).

Most studies have found that estimates of the macroeconomic impacts are sensitive to assumptions about how AIDS affects savings and investment rates and whether AIDS affects the best-educated employees more than others (Futures Group International, 2000). Key differences in the demographic assumptions of these different models include in variations in terms of rate of infection, life expectancy, morbidity levels, productivity impacts on labour, and mortality levels. These different assumptions and data-set baselines, lead to different scenarios being forecasted.

General findings from the different modelling exercises are non-the-less cause for concern. The non-alarmist scenario forecasts of ING Barring (2000) predict that GDP trends growth is forecast to be on average 0.3-0.4 percentage points per annum lower than on a no aids baseline. In their 1997-2010 impact simulation exercise, Arndt and Lewis (2000) find that GDP levels could be 17 percent lower in an AIDS scenario.

The Doyle-Metropolitan model's demographic projections for the next decade are:

Table 12: Demographic impacts of HIV/AIDS 1999-2010 (Denny-Demitriou, 2000)

	1999	2005	2010
% of SA workforce that is HIV+	11%	18%	21%
% of SA workforce that is AIDS sick	0.6%	1.8%	2.9%

New AIDS cases per annum	175 461	461 000	580 000
Number of AIDS orphans	153 955	955 000	2 000 000
Life expectancy of SA population – Female	54	43	37
Life expectancy of SA population – Male	50 43	43	38

Based on these projections, Moore (Cited in Denny-Demitriou: 2000) warns that the economy could be severely incapacitated by HIV/AIDS in less than a decade, and

"all economic sectors will be affected, particularly education, health and industries dependent on manual labour".

7.3 Impacts on individuals and households

Sunter and Whiteside (2000) warn that at the household level, Aids cases will be traumatic and may be economically disastrous. The household impacts begin as soon as a member of the household starts to suffer from HIV-related illnesses:

Loss of income of the patient (who is frequently the main breadwinner)
Household expenditures for medical expenses may increase substantially
Other members of the household, usually daughters and wives, may miss school or work less in order to care for the sick person
Death results in: a permanent loss of income, from less labour on the farm or from lower remittances; funeral and mourning costs; and the removal of children from school in order to save on educational expenses and increase household labour, resulting in a severe loss of future earning potential.

Whiteside and Sunter (2000) posit that the AIDS will have a greater household economic impact than death from other causes. Their suggestions as to why this may be so include, the protracted nature of HIV illness and the lengthy depletion of household resources giving rise to greater and more enduring hardship than other causes of death. They note in particular, that not only does poverty help drive the epidemic, but that AIDS increases poverty levels and socio-economic inequality. In respect of the current housing delivery approach in South Africa, they also warn that the concept of granting basic housing where occupants are paying towards the cost of their homes and for utilities, may amplify the economic hardship of households brought about by HIV/AIDS.

7.4 Impacts on companies

AIDS may have a significant impact on some firms. AIDS-related illnesses and deaths to employees affect a firm by both increasing expenditures and reducing revenues. Sunter and Whiteside (2000) identify the costs associated with HIV/AIDS at the company level to include:

- Increase absenteeism because of the ill-health of employees, time taken by workers who are also care-givers, and compassionate leave;

- Sagging workforce morale;
- Decrease in productivity linked to morbidity and a reduction in the ability of workers to take on physically demanding activities;
- Decrease in workplace safety because of morbidity-related fatigue;
- Increased replacement costs associated with training of new staff;
- Fall in the average age and experience of labour as new and younger recruits have to be mobilised;
- Employers may compensate for the expected loss of their workforce during apprenticeship and to counteract absenteeism by increasing the size of their workforce;
- The attrition of skilled labour pools will cause wages to rise;
- The communities in the neighbourhood of a business are needing more support to weather the crisis;
- Rising hospital, health care and health benefits costs;
- Personal loans granted to employees have to be written off in the case of AIDS deaths;
- Derived demand decreases thereby reducing growth in the volume of sales.

The following presents findings of research conducted in South Africa on the micro-impact of HIV/AIDS at the company level. These were documented in a publication undertaken by the Futures International Group (2000).

A survey of 16 firms in South Africa asked whether the company prevalence rate was known, and whether HIV/AIDS had created any problems for the company. Only four companies returned the survey forms. A major platinum mining company stated that four employees were dying of AIDS per month. A major industrial company based in KwaZulu-Natal recorded a 31% increase in the number of ill-health retirements between 1995 and 1997; of these retirements, 17% of them were due to AIDS.

A study in South Africa examined the expected impact of AIDS on employee benefits, and thus on corporate profits. It found that at current levels of benefits per employee, the total costs of benefits would rise from 7 percent of salaries in 1995 to 19 percent by 2005. Since these additional costs will have to be paid at the same time that productivity is declining, due to AIDS, the net impact on profits could be significant.

A recent set of estimates by the Metropolitan Life Insurance Company in South Africa predicted that the impact of HIV/AIDS would double employee benefits costs by 2005, and triple by 2010. Either benefits would be reduced, or the remuneration costs paid by firms would increase by about 15%. Total indirect costs would add a further 10% to the wage bill by 2005, and 15% by 2010.

One South African company, Gencor, projected that HIV/AIDS-related health would reach 60 percent of the total by the year 2000, which is 15 times greater than the costs had been in the past.

For some smaller firms the loss of one or more key employees could be catastrophic, leading to the collapse of the firm. In others, the impact may be small. Firms in some key sectors, such as transportation and mining, are likely to suffer larger impacts than firms in other sectors. In poorly managed situations the HIV-related costs to companies can be high.

Sunter and Whiteside (2000) examine a published study performed on the impact of HIV/AIDS on a sugar mill with 400 workers of whom 96% are male. They note in particular that the monetary values of work due to illness, clinic visits and hospitalisation increase in the last two years, and that the average number of days lost due to illness in that period amounted to 27,7 day per year. Based on a costing of this average, and on considerations of the costs associated to the recruitment and training of new labour, the study estimated the cost per worker per year for the period under review at R 9 543. The breakdown of contribution of different costs factors were as follows:

- Replacement workers: 28%
- Lost productivity: 28%
- Training: 5%
- Hospitalisation: 1%
- Clinic and physician visits: 10%
- Absenteeism: 28%

7.5 Impacts on the Construction Sector

There is a scarcity of literature directly assessing the impact of HIV/AIDS on the construction sector and much of it generalised from the ING Barings Study (April 2000). From their demographic modelling they were able to overlay their forecasts of population and age groups and skills levels on sectoral data from the census to arrive at infection rates and AIDS deaths for selected sectors. The findings should be treated as a framework and not as absolute figures.

Ranking of HIV infection rates

The HIV+ rate per 100 workers was ranked from lowest to highest and showed that the construction industry ranked the third highest after transport and mining.

Table 13: Ranking of HIV/AIDS infection rates (ING Barings, 2000)

SECTOR	2000	RANK
Finance and Insurance	8,9	1
Business services	11,9	2
Communication	12,1	3
Health	14,9	4
Metals	15,0	5
Forestry products	15,2	6
Machinery	15,9	7
Retail	16,2	8
Chemicals	16,6	9
General government	17,2	10
Consumer manufacturing	17,3	11
Agriculture, forestry and fishing	17,3	12
Catering and accommodation	17,9	13
Construction	18,2	14
Transport and storage	18,5	15
Mining	24,1	16

Infection rates in the construction industry are at 18,2 per 100 workers. This is projected to increase to 23,9 in 2005 and then decline slowly to 23,4 in 2010 and 22,1 in 2015 (pg 25 of the report).

The projected infection rates and AIDS deaths in various sectors over the next 15 years was also estimated. Selected extracts from their tables on AIDS deaths are shown below to illustrate the impact on the construction sector.

Table 14: AIDS deaths per 100 workers (ING Barings, 2000)

SECTOR	2000	2005	2010	2015
Finance and Insurance	0,4	1,1	1,5	1,4
Business services	0,6	1,9	2,5	1,2
Communication	0,3	0,9	1,2	1,2
Health	0,4	1,3	1,7	1,6
Metals	0,5	1,6	2,1	2,0
Forestry products	0,5	1,6	2,1	2,0
Machinery	0,5	1,6	2,1	1,9
Retail	0,6	1,8	2,3	2,1
Chemicals	0,6	1,8	2,4	2,2
General government	0,4	1,0	1,4	1,4
Consumer manufacturing	0,6	1,8	2,5	2,4
Agriculture, forestry and fishing	0,6	1,7	2,4	2,2
Catering and accommodation	0,6	2,0	2,5	2,3
Construction	0,5	1,7	2,2	2,1
Transport and storage	0,4	1,3	1,7	1,7
Mining	0.8	2,5	3,0	2,7

Aids deaths will peak at 2,2 per 100 workers in 2010. If the BIFSA estimate of 380 000 workers in the industry is used, this implies a loss of 8 360 workers in this industry.

Based on this study, industry observers and representatives have elaborated on the specific impacts for the construction sector. Julia Denny-Dimitriou wrote two articles (December 1999 and February 2000) for Housing SA which look at the impact on the housing sector. She notes the indirect impacts will be felt beyond the direct impacts and that these have largely been ignored by companies. These include:

- Increased scarcity of skilled labour
- Costs of staff recruitment and training
- Lower productivity of sick and learner workers
- Increased absenteeism through illness and funeral attendance
- Negative impact on staff morale
- Costs of enforcing adequate occupational health and safety standards
- Management time spent on human resource issues and meetings with labour representatives
- Loss of turnover and profits.

She quotes the Bingham and Harber paper which notes that many major construction projects have inadvertently stimulated the spread of HIV due to migrant and contract workers being relocated and housed in compounds for the duration of the project.

While very little empirical research exists in the impact on the construction industry, on researcher, Professor John Smallwood and colleagues, have done some survey work on health interventions relating to HIV and sexually transmitted diseases[8]. In an article in the Civil Engineering and Building Contractor in February 2001, the main findings were summarised and are noted here. The study was largely based around the Port Elizabeth area and cautions that it may not be representative. However, the findings are useful and interesting for this study.

The report notes that community/society efforts are more prevalent than employer related interventions. All can do more to combat HIV/AIDS, STDs and TB. Communities can contribute through the media of radio and TV, to increase awareness. Employers can contribute through awareness education, the provision of condoms, posters and toolbox talks.

There is a relatively high level of misconception with respect to the role of kissing and mosquitoes in the transmission of HIV/AIDS and some workers subscribe (13,8%) to the misconception that 'having sex with a virgin can cure a person of HIV/AIDS'.

The salient issues arising from the general comments are: workers are generally aware of the implications of HIV/AIDS, STDs and TB; there is a need for increased awareness and the dissemination of information, and employers have a role to play.

The study made the following recommendations:

Department of Public Works (DPW)

- Engendering of complementary activities by other government departments, inter alia, Education Health and Labour.
- Implementation of a 'HIV/AIDS, STDs and TB' programme on all projects.
- Inclusion of 'HIV/AIDS, STDs and TB' related editorial in the 'Construction Industry Development News'.
- Facilitation of a comprehensive national research study directed towards management and workers.
- Consideration of the establishment of a 'HIV/AIDS, STDs and TB' Focus Group.
- Consideration of the inclusion of 'HIV/AIDS, STDs and TB' related awareness and education as a project requirement.

Employers

- Implementation of a 'HIV/AIDS, STDs and TB' programme on all projects.
- Integration of a 'HIV/AIDS, STDs and TB' programme into an existing safety, health and environment (SHE) programme, where such a programme exists.
- Integration of 'HIV/AIDS, STDs and TB' awareness and education into induction and toolbox talks.

Employer associations:

- Evolution of comprehensive guidelines relative to the management (awareness and programmes) of HIV/AIDS, STDs and TB.
- Raising and maintaining the level of awareness with respect to HIV/AIDS, STDs and TB, through, inter alia, allocation of editorial in newsletters.

[8] Two article are of interest - Feedback Report on HIV/AIDS, STDs and TB study conducted among General Contractors by Professor John Smallwood and Danie Venter. August 2001.
HIV/AIDS, STDs and TB: Construction Workers Perceptions - A Preliminary Report on a Pilot Study Conducted by the University of Port Elizabeth.

Employee associations

- Raising and maintaining the level of awareness with respect to HIV/AIDS, STDs and TB, through, inter alia: shop stewards addressing, advising and counselling workers, dissemination of information using flyers and pamphlets.

Industry training providers

- Integration of 'HIV/AIDS, STDs and TB' related awareness and education into induction, toolbox talks and curricula.

Tertiary education institutions (Construction Management and related programmes)

Integration of 'HIV/AIDS, STDs and TB' related awareness into orientation programmes and curricula, and education pertaining to the management thereof, into curricula.

Fostering and promotion of 'HIV/AIDS, STDs and TB' related research in construction.

Media (construction)

Raising and maintaining the level of awareness through the allocation of editorial and other space to 'HIV/AIDS, STDs and TB' related issues.

In the same journal article, the Health Economics and HIV/AIDS Research Division, University of Natal (2000) is quoted as advocating that the construction industry urgently prioritises the development of a strategy to prevent further infections and cope with the impact in its field of operation. Management commitment, partnerships with trade unions, clients and the communities in which a contractor operates are essential to any interventions. There are two levels to such a strategy: a strategic plan and an operational intervention; the cornerstones being prevention, care and non-discrimination.

Hausler (2000), quoted from the same article, also recommends that employers develop and implement a policy and programme to address HIV/AIDS, STDs and TB in the workplace, the most important step being the establishment of a committee through which discussion and consultation can occur. Thereafter, a needs analysis should be performed, followed by the drafting of a policy, and the implementation phase of the programme.

Summary of the impacts o
f HIV/AIDS on the construction sector

The following impacts can be summarised:

- The construction sector has high infection rates compared to most sectors - ranked third after transport and mining;
- AIDS related death rates in construction will peak in 2010 at 2,2 per 100 workers while seven other sectors will have a rate higher than this at the same time;
- Industries using manual labour will be the most affected, hence the impact on the construction industry;
- Construction workers are fairly mobile resulting in an increase in infection rates in the sector;
- The impact on labour used in low-cost housing will be high (in number terms), although this will not be felt immediately as unemployed labour is absorbed;
- Impact will be felt more keenly in the semi-skilled level as these skills are harder to replace quickly;
- Productivity will be affected due to higher staff turnover and loss of skills and experience;

- Employers in the construction industry are not doing much regarding awareness and prevention of infections and should implement programmes in this regard.

8 AREAS OF STRESS AND VULNERABILITY IN THE IMPLEMENTATION OF THE HOUSING POLICY FROM THE PERSPECTIVE OF HIV/AIDS ECONOMIC IMPACTS ON THE CONSTRUCTION SECTOR

The Housing Policy provides for a range of construction and delivery processes, from facilitated self-help, to small contractor-led and to developer-led. Clearly, HIV/AIDS is likely to have an impact on all forms of housing delivery processes, although the manner in which this impact will affect housing delivery, will differ. Considering the impact of HIV/AIDS on *the housing supply side's* ability to meet the objectives of state housing policy over the next 5-10 years requires one to take into account both proximate and mediate aspects.

a. The *proximate aspect* relates to *exogenous* limitations on agents' ability to fulfil their plans through the availability of housing supply factors (labour, capital, raw materials). This is a short-term effect since in the longer term factors can be substituted to an extent.
b. The *mediate aspect* arises because demand for housing supply factors is derived from the demand for housing; perceptions of reduced future housing demand lead to *endogenous* limitations in the form of reduced investment in supply capacity (equipment, training, etc.). This is a longer-term effect.

The following sections provide an overview of the different economic, operational and contextual aspects of housing delivery on which HIV/AIDS may impacts.

8.1 Input related impacts

However, HIV/AIDS is likely to affect labour costs and indirect costs, albeit differentially- for all housing delivery processes- from the production and supply of construction materials, to the acquisition of land and planning process, to the preparation of the site, mobilisation and training of labour, to the implementation of bulk and connector services, construction of top structures and transfer to occupants. This suggests crudely that if the economic impact of HIV/AIDS on construction sector role-players is such that the profitability of playing their role in delivery is threatened, the likelihood of their continued involvement in construction for low-income housing is doubtful.

The current practices of housing delivery by developers routinely call upon small contractors to partake in the delivery process. Their respective contribution to the development process- and to the total cost of production- is overwhelmingly biased in favour of the developers. However, in principle, small contractors are also likely to assess the continued viability of their involvement in the housing delivery process, based on the profitability of their activities. Similar assumptions can be made in respect of housing development projects where small-contractors assume a greater share of the delivery process. Where their production costs outweigh the profits which they can derive from their activities, then the viability of their operations become threatened.

Facilitated self-help housing delivery processes tend to concentrate production costs on those items that directly affect the size of a housing product. Typically, these include construction materials, and labour, although the total labour costs may be

affected by varying degrees of sweat equity contributions made by the beneficiary household or group of households, in case of communal self-help processes. Concerns over profitability levels may be secondary in terms of the operational objectives and outcomes of self-help housing processes. Instead, greater focus is placed on achieving cost-maximisation to the benefit of the product, both in terms of quantity and quality. This means that the internal logic of the private-sector construction industry- profit maximisation- is not necessarily a feature of the self-help model. However, vulnerability to cost fluctuations, as a result of HIV/AIDS impacts means that some of the objectives of this housing delivery model may be compromised (i.e. higher materials costs may mean lower size of each unit).

Aside from these three types of processes, it would be important to take into account housing development processes that fall beyond the ambit of projects and programmes. Housing consolidation processes, initiated at the household level, often after a settlement upgrading process or even green-field development processes, are particularly relevant in this respect. Generally, these are undertaken by small contractors or by household members. Because these activities do not fall within the ambit of a particular project or programme, they are not monitored- and have received little attention in terms of either the process of construction, the products they generate or the costs, involved in production. Presumably, these processes, products and costs would vary from household to household. One may assume, however, that because these processes are highly localised, their vulnerability to the impact of HIV/AIDS would reflect general labour productivity, costs and micro-economic impacts at the household and settlement level.

The 'supply side' of housing delivery includes two broad types of production processes: capitalist and social. The former produces housing for its realisable exchange value whilst the latter produces it for its use value. They differ not only in terms of labour process but also in terms of their sensitivity to time. Capitalist production strives for regularised time-bounded delivery to avoid holding costs, which affect profit. Social production can take place over time, since production is for use rather than exchange value and such costs are therefore internalised. They also differ in the short-term flexibility of the actual production process. Capitalist production is relatively inflexible since the labour process is hierarchical and skills are fragmented.

Key findings from the review and analysis thereof are that the degree to which HIV will impact on the housing supply side is a function of:

- *The reliance of different housing development supply chains on capital-intensive vs labour intensive processes.* All development processes rely to some extent on the capital intensive construction materials manufacturing filliere. However the different development processes rely differentially on waged labour contributions.
- *The existing supplies of and demand for human resources in each area of the housing supply chain.* Supply and demand consists in both quantitative and qualitative (skills) aspects. Low skill suggests high substitutability, and limited cost for construction role-players; whereas high skills level held by a limited pool of individuals reduces ease of replacement more and increases company costs.
- *The risk factors of the sociological categories associated with each human resource category.* HIV/AIDS AIDS risk tends to be positively correlated to poverty and low skill.
- *The relative balance of capitalist and social production processes in housing policy over the next 5-10 years.* Risks intrinsic to capital intensive production may be mitigated to the extent that this method is downplayed and *vice versa*. The opposite is true of social production processes if this method is more relied upon.

- *The substitutability of housing supply factors within and between capitalist and social production processes.* For example, decreased availability of skilled heavy-equipment operators in capitalist production may be compensated by increased reliance on manual labour in a social production process.

Overall research on the economic impact of HIV/AIDS on companies suggest is that the nature of HIV/AIDS impact on firms is likely to be felt differentially, according to the degree of reliance of a firm or sector on its workforce (i.e. ease of replacement of labour), the size and composition of its labour pool, the institutional arrangements between labour and the company (i.e. contractual, part-time, casual, benefits…). Moore (in Denny-Demitriou: 2000), forecasts that:

"…HIV could add a further 10% to the remuneration budget of a typical manufacturing company by 2005 and 15% by 2010".

For the construction industry the following table provides an overview of the different role-players involved in the delivery process by outlining different skills levels, labour pool size, benefits and ease of replacement, and assumed HIV/AIDS propensity. This list is by no means exhaustive and will require disaggregating, additions and verification, during the primary research phases of this study.

Table 15: HIV/AIDS vulnerability per type of role-player in the construction sector

Type of role-player	Role in housing delivery	Size of in-house labour pool	Skills level of labour pool	Benefits and contractual position	Ease of replacement	Assumed HIV/AIDS propensity
Large developer (75% of construction to date)	Initiates project, sources finance, oversees technical aspects.	Small specialised teams within large conglomerates & decreasing in numbers (downsizing)	Highly skilled (some academic and some on-the-job training)	High benefits	Shortage	Low
Small developers	Professionals operating as developers	Small consulting firms	Highly skilled (some academic though most skills acquired for role on the job)	Liberal professions	Shortage	Low
Surveyors (quantity and land)	Key role-players in costing projects and preparing land for transfer	Small specialised consulting firms	Highly (academic)	Liberal professions	Shortage	Low
Engineering firms (bulk of subsidy	Key role-player in designing, costing and	Large consulting firms and	Highly (academic and little on- the-job)	High level of employee	Shortage	Low

costs)	implementing services (in line with subsidy)	operations (downsizing)		protection and benefits		
Town planners	Role-player in obtaining land planning and development approvals, can also play a co-ordination role	Some large consulting firms linked with engineering firms. Mostly small firms	Highly (some academic some on-the-job)	High level of employee protection and benefits but only of large consulting firms not for liberal profession	Shortage	Low
Financiers	Role-players in facilitating access to bridging finance or lending finance for housing projects	Parastatals, financial institutions	From skilled (mostly on-the-job) to highly skilled (academic and on-the-job)	High levels of employer benefits		Med to low
Facilitators	Role-players in liasing and facilitating beneficiaries and consumers	In-house in developers' firms, some free-lancers				From high to low
Government role-players	Approve subsidies, assess and approve township establishment and site and building plans, inspects quality of housing, monitor progress payments, Register and issue general plan of township layout and title	Role-players in municipalities, department of housing provincial, and Deeds Office	From clerk to professional levels (on the job-training for procedures)	High level of employee protection and benefits	Some shortages for skilled workers	From high to low
Contractors	Oversee and/or undertake construction of whole housing products often sub-contracts specific activities in the construction process	Small locally based operations with limited implementation capacity	Trade-based training tecknikons and technical colleges, big on-the-job training	Core group of employees with some casuals	Some shortages	High to low (High mobility)
Sub-	Trade based	Micro-	Technical	Self-	Surplus	High

contractors	construction role-players	enterprises	college, apprentiship and learnerships, big on-the –job training	employed & relies extensively on casual labour		(high mobility)
Casual part-time employees	Trade based, but mostly unskilled labour	Individuals often drawn from community or nearby settlement	Low to trade-specific skills level	No labour protection	Surplus	
Sweat-equity contributions	Beneficiaries	Drawn from beneficiary group	Unskilled	No labour protection	-	High to med (depending on settlement prevalence)

In the BIFSA Quarterly Report -Vol 1 Issue 1 (January 2000), it was reported that there will be an increase in training costs in order to maintain levels of production. It uses the example that if 18% of the workforce is off sick with AIDS-related illnesses, the contractor must ensure a surplus of 18% in order to complete the contract within the given contract period. Other impacts on the contractor's balance sheet include increased medical aid costs, additional leave and disability costs. They estimate that if the total of 220 000 people currently employed in the building industry, an additional 40 000 people will be required to achieve the same output. This implies that contractors must plan ahead to ensure the transfer of multiple skills.

If HIV/AIDS impacts directly on labour costs and availability, it will also affect the cost of production of housing, thereby affecting the operational viability for construction role-players to operate in the low-income housing market. At a very crude level, one may argue that the production price of a specific commodity is related to input costs and process costs. In the low-income housing sector, the supply chain comprises direct costs and indirect costs. These costs are subject to variations and factors that have a significant impact in shaping the financial viability and desirability of construction-sector role-players to be involved in the low-income housing sector. Importantly, an overview of these cost factors suggest that the construction sector is highly suceptible to role-players and variables beyond its immediate influence. These include:

- The institutional system (in terms of subsidy administration, property rights administration and land use and development management);
- The financial sector (in terms of providing bridging finance and operational loans to construction role-players);
- The transport sector (to transport raw materials and processed building materials);
- The professional sector (to provide technical support to construction and land development processes); and
- The housing management sector (whose involvement in housing development is required for accessing institutional housing subsidies).

8.2 HIV/AIDS impacts on housing demand and consumers

In addition to impacting on the construction sector directly, HIV/AIDS will impact on the demand side. At the most basic level, research findings estimate that HIV/AIDs will result in a situation where fewer housing units are needed (Futures International Group, 2001). The BIFSA report also noted that the slowdown in population growth will impact on the demand for low cost housing, speculating that it will reduce the backlog in housing to less than a million by the year 2010. The CETA Sector Skills Plan posits that HIV/AIDS will reduce the demand for low cost housing to such an extent that the demand could be halved by 2010 and that the current annual demand of around 200 000 units could be reduced to 120,000 by that time.

The key factor affecting the demand will however be a change in the structure of households may change, making planning more difficult: households may become headed by children; households may be even poorer than before, and so unable to pay for even the most basic services; and the number of people per household may decrease overtime, or increase to accommodate extended family members affected by HIV/AIDS, such as AIDS orphans. This observation is taken further by Tomlinson (2001) in his assessment of the Housing Policy in the context of HIV/AIDS by stressing that the current housing development approach is fundamentally at odds with the demographic and socio-economic impacts of HIV/AIDS on target beneficiaries. He argues in particular that while still functioning families and including extended families that are sustained by relatives (who typically move into the dwelling unit) will warrant the continuation of pre-existing housing policies; families headed by HIV infected adults, child-headed families, expelled HIV positive family members, homeless children (not all of whom will be orphans and some proportion of whom will be HIV positive) will require shelter of some sort. However, the type of shelter benefit which may be required for the later cannot be effectively addressed by a stand-alone starter house, with services and a individual ownership rights. For instance, reliance on extended family structures has resulted in severe overcrowding, which can lead to hygiene and sanitation problems (BESG, 2001 (b)). This is a significant factor of stress on the beneficiaries of the Housing Policy, who are affected by HIV/AIDS. Importantly, Tomlinson notes, whilst the Policy is premised on the incremental household development by beneficiaries of their starter houses, the increased poverty brought about by HIV/AIDS and rising unemployment levels will not enable households to invest in housing development. He explains that;

"*Household savings, if there are any, will be used to care for the sick and pay for burials. The earnings of relatives not themselves having HIV infected family members will also to some degree be siphoned off to provide assistance*" (Tomlinson, 2001).

The outcome of this perspective is one where construction, in particular consolidation of starter houses and the development of top-structures in the case of serviced sites, becomes a secondary priority for affected households.

8.3 Contextual impacts

8.3.1 Macro-economic relationship

In Section 3 some of the linkages of the housing and construction sectors with the macro-economy were explored. A key finding is that the macro and the micro economies for both sectors are highly symbiotic. In other words, where the macro-economy is under strain, the construction and housing sectors are highly vulnerable to depression. Because of this relationship; it is likely that in a depressed macro-economic environment, with squeezed public and private investment levels and higher production and consumer prices, arising from the micro-impacts of HIV/AIDS, the bulk of the construction and housing sectors is likely to experience a downturn in turnover and profit.

8.3.2 Budgetary and fiscal linkages

A basic assumption of most HIV/AIDS economic impact analysis is that there will be a shift in budgetary allocation to support the health and welfare sectors, and a decrease in revenue generation from tax collection. These two factors combined suggest a possible decrease in the budgetary allocation to housing. The Policy Review's stance on housing subsidies, as unsustainable in the long-term, supports this assumption. Although housing development support may take place beyond the ambit of subsidies, the extent to which the reliance of construction sector role-players, even in People's Housing Process projects, on housing subsidies, forecasts negatively on the willingness and ability of these role-players and stakeholders to continue building.

9 RESPONSES TO THE CRISIS

"The vast majority of companies are not considering HIV and AIDS…AIDS is not currently an issue for the South Africa private sector."[11]

9.1 Government response

The AIDS Review 2000 asserts that:

"it is difficult not to conclude that South Africa thwarted its chances to stem an epidemic that has increased thirty-fold since 1990".

The first explicit response to AIDS emerged with the birth of the National AIDS Convention of South Africa in 1992, and the formulation of a strategic plan to address the spread of the pandemic. This strategic plan was taken on by the post-1994 Health Department, although its implementation largely fell by the wayside owing to serious obstacles, such as extensive governmental restructuring, capacity limitations and political controversy (Sunter and Whiteside, 2000). From 1995, onwards, more substantive efforts were made to address the pandemic and its impacts, notably by using mass-communication to raise awareness, supporting life skills education, promoting treatment and management of STD's, increasing access to condoms, developing care and support systems.

Political controversy has continued to hinder the emergence of a clear message relating to the treatment of HIV/AIDS issues in respect of all government's development programmes. However, clear signs are emerging from the different spheres of government to account for the need to address HIV/AIDS issues. The following principles are contained in the Strategy for HIV/AIDS and Sexually Transmitted Diseases Prevention, Treatment and Care Efforts for South Africa. They form the basis of government approach and have a bearing on the manner in all spheres of government should incorporate HIV/AIDS issues in their planning and delivery functions:

- People with HIV and AIDS shall be involved in all prevention, intervention and care strategies;
- People with HIV and AIDS, their partners, families and friends shall not suffer from any form of discrimination;
- The vulnerable position of women in society shall be addressed to ensure that they do not suffer discrimination, nor remain unable to take effective measures to prevent infection;
- Confidentiality and informed consent with regard to HIV testing and test results shall be protected;
- Education, counselling and health care shall be sensitive to the culture, language and social circumstances of all people at all times;
- The government has a crucial responsibility with regard to the provision of education, care and welfare of all people of South Africa;
- Full community participation in prevention and care shall be developed and fostered;

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11 Cited in Whiteside, A (1998) "The Current and Future Impact of HIV/AIDS in South Africa," HIV/AIDS and Human Development Report, Draft paper prepared for the United Nations Development Programme, Pretoria, 23 August 1998.

- All intervention and care strategies shall be subject to critical evaluation and assessment;
- Both government and civil society shall be involved in the fight against HIV/AIDS;
- A holistic approach to education and care shall be developed and sustained;
- Capacity building will be emphasised to accelerate HIV/AIDS prevention and control measures; and
- Sexually Transmitted Diseases prevention and control are central elements in the response to HIV/AIDS.

The HIV/AIDS Plan 2000 identifies the focus of government action in respect of HIV/AIDS as, a reduction of the number of new HIV infections (especially among youth) and of the impact of HIV/AIDS on individuals, families and communities. Specific strategies referred to in the Plan include:

- An effective and culturally appropriate information, education and communications (IEC) strategy;
- Increasing access and acceptability to voluntary HIV testing and counselling;
- Improving STD management and promote increased condom use to reduce STD and HIV transmission; and
- Improve the care and treatment of HIV positive persons and persons living with AIDS to promote a better quality of life and limit the need for hospital care.

In most national sector departments, HIV/AIDS has been identified as a specific priority to be addressed. Similarly, some provincial sector departments and municipalities have also taken on the pandemic as an area of focus. The IDP process which municipalities are expected to undertake in terms of the Municipal Systems Act, provides for the formulation of a dedicated HIV/AIDS Plan as part of the outputs of the planning process. The degree of emphasis which government spheres and departments have placed on HIV/AIDS varies tremendously. Most agencies have amalgamated HIV/AIDS issues as part of the "special needs" category of intervention; few have come to realise that the impact of HIV/AIDS on their area of focus will affect the whole gamut of policy, strategy, programme, and plan formulation and implementation.

A particularly progressive intervention in this respect is that led by the provincial cabinet initiative of the KwaZulu-Natal provincial sphere. In this province, the Department has taken a deliberately holistic and proactive approach to the pandemic (Godliman, in Denny-Demitriou, 2000). It has notably set up departmental guidelines to ensure that the legislation accommodates the needs of affected and infected persons (to support in particular institutional housing options) (BESG, 2001). According to these guidelines, the province will review funding applications for:
- Cluster homes or children's villages for AIDS orphans;
- Transitional housing for children and adults left without a bread-winner;
- Facilities for home-based care.

A more timid response is emerging Gauteng and Mpumalanga which have each produced documents that have used the work of KwaZulu Natal as precedent (Kayamandi, 2001).

9.2 Labour responses

The bulk of the response to the pandemic from the labour sector is highly supportive of interventions that aim to raise HIV/AIDS awareness but warns that publicity and

condom distribution, though important, are not enough. A COSATU Congress Declaration stipulates in particular that giving positive assistance to workers living with HIV / AIDS and the provision of a supportive environment for workers and people living with HIV / AIDS are key areas of intervention. Overall, however, strategic directions on the part of the union movement have tended to be unspecific. Denny-Demitriou (2000) even recalls that the spokesman for one building union contacted as part of her research seemed horrified by the suggestion that HIV/AIDS ought to be on his union's agenda, as he felt certain its members "Would not be in a situation where it would affect them." Her experience with another labour union, the Construction and Allied Workers Union (now amalgamated to the Mineworkers' Union) was more positive. Her interview with the Union's Education Secretary, revealed that CAWU has been running an AIDS awareness and prevention programme among its members and looking at ways in which working conditions can contribute to stopping the spread of HIV among construction workers. One of the aspects which she identified was the control of access to accommodation on remote construction sites where workers are vulnerable to infection and by introducing allowances for spouses and families to visit these sites.

A key intervention which the union has been seeking to facilitate is the upgrading of employee benefits to cover HIV/AIDS, and access of workers to proper care in the intention that this would extend their life span and their productivity. At the moment, many just give up and fade away on site before going home to die; If workers die, their skills die with them (Deers in Denny –Demitriou, 2000).

9.3 Responses from construction sector

To date there has been little response from the organised construction sector, although statements of intent are becoming more common.

Ian Robinson, ED of BIFSA, noted the concern of BIFSA regarding the impact of HIV/AIDS on the building industry because it is labour intensive, and explained that:

"the theme of our 95th annual congress in September 2000 is 'Achieving sustainable growth' and we have positioned HIV/AIDS as a priority issue on our agenda. There is no doubt that it will negatively impact on the growth of our industry and we are currently preparing projections in order that our members can plan accordingly."[9]

In the same article, the Department of Housing in KwaZulu-Natal noted that that they are to commission research into the spread and impact of HIV/AIDS in the province. Likewise, the Gauteng MEC for housing noted the importance of drafting a clear strategy and they will do thorough research and consult with other department to develop an integrated strategy

Abt Associates and the Health Economics and HIV/AIDS Research Division of the University of Natal, with assistance from USAID has a developed a HIV/AIDS and Housing and Public Works Toolkit. It comprised pamphlets created to identify areas of vulnerability to the impact of HIV.AIDS and to suggest steps that can be taken.

[9] Ian Robinson, Executive Director of the Building Industries Federation South Africa in Julia Denny-Dimitriou's article "The HIV/AIDS time bomb - a nation in denial". Part 2 in Housing SA, February 2000.

The Department of Public Works has initiated a research process on the impact of HIV/AIDS for the construction sector, in relation to the implementation of the Department's Public Works Programme.

The CETA Skills Sector Plan does not have a strong focus on this, however, it does note that multi-skilling is important for the construction industry. If this becomes a focus for contractor education, it will go a long way to contributing to ameliorating the impact of HIV/AIDS. Multi-skilled labour is more flexible and can absorb the impact of labour loss. The Skills Plan does recognise that training for emerging contractors should meet the specific needs of emerging contractors and their employees (Chp 7). The research done by the Department of Housing cited earlier in this paper supports many of the proposed areas of need. However, the specific needs arising from the impact of HIV/AIDS has not been clearly articulated to date.

10 WAY FORWARD

This draft report documents a survey and analysis of relevant literature for the research process. Its findings are summarised as follow:

- Changes in housing and procurement policy and practice suggest shift away from the delivery of a fully subsidised package of benefits (land + services + top structure) towards incremental housing processes. In this framework developer-led housing policy implementation, in favour of housing delivery where households, small contractors and municipalities are key role-players.
- Increasing support for institutional housing development has also been noted. It is expected that it is this portion of the market which large developers may continue to target, as the value of the housing products enables a degree of profit maximisation.
- The construction sector is particularly vulnerable to exogenous factors (such as public sector investment, inflation and interest rates fluctuations, procurement policy and housing delivery standards), which relate to the broad macro-economic and political framework. Small contractors trade an extremely competitive market and their lack of access to business infrastructure means that they are least able to shoulder exogenous factors affecting the overall construction sector. HIV/AIDS is likely to have severe macro-economic impacts, which will in turn affect the construction sector and in turn the implementation of the housing policy.
- The construction sector is also likely to be affected by HIV/AIDS in terms of its labour pool, and the contributions which labour provides according to different housing supply chains. This would also affect cost variables such as holding costs resulting from delays in the institutional system and beneficiary absenteeism levels at the time of transfer.
- Different housing delivery processes have varying levels of flexibility in terms of absorbing impacts on labour and variations in the cost of production. Typically, processes which rely on social production, in this instance the People's Housing Process, may be less affected than production processes where profit motivation is compromised by HIV/AIDS demographic and economic impacts. However, the ability of social production to take place in an HIV/AIDS environment, with high levels of socio-economic stress at the household and community level, may be compromised.
- The response to HIV/AIDS by government, labour and the construction sector has tended to be limited to awareness raising; although government and labour have shifted their interventions to managing the impacts of HIV/AIDS on affected individuals, in terms of counselling and care management. Few corporates- even in the construction sector- appear to have effectively considered HIV/AIDS impacts in terms of strategic planning and capital and human resource investment. This gap may increase the level of economic vulnerability of the construction sector to HIV/AIDS impact.

This first draft will be revised in the course of interaction with construction sector stakeholders and role-players. It provides a framework from which to formulate detailed hypothesis and questionnaires for primary research activities. The subsequent activities in the research will comprise of a national assessment process, following which provincial assessment will be undertaken in each of the provinces. The findings of both phases will be presented and discussed with construction sector and housing development role-players and stakeholders. Strategic findings of the overall research process will be disseminated in a series of workshops.

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